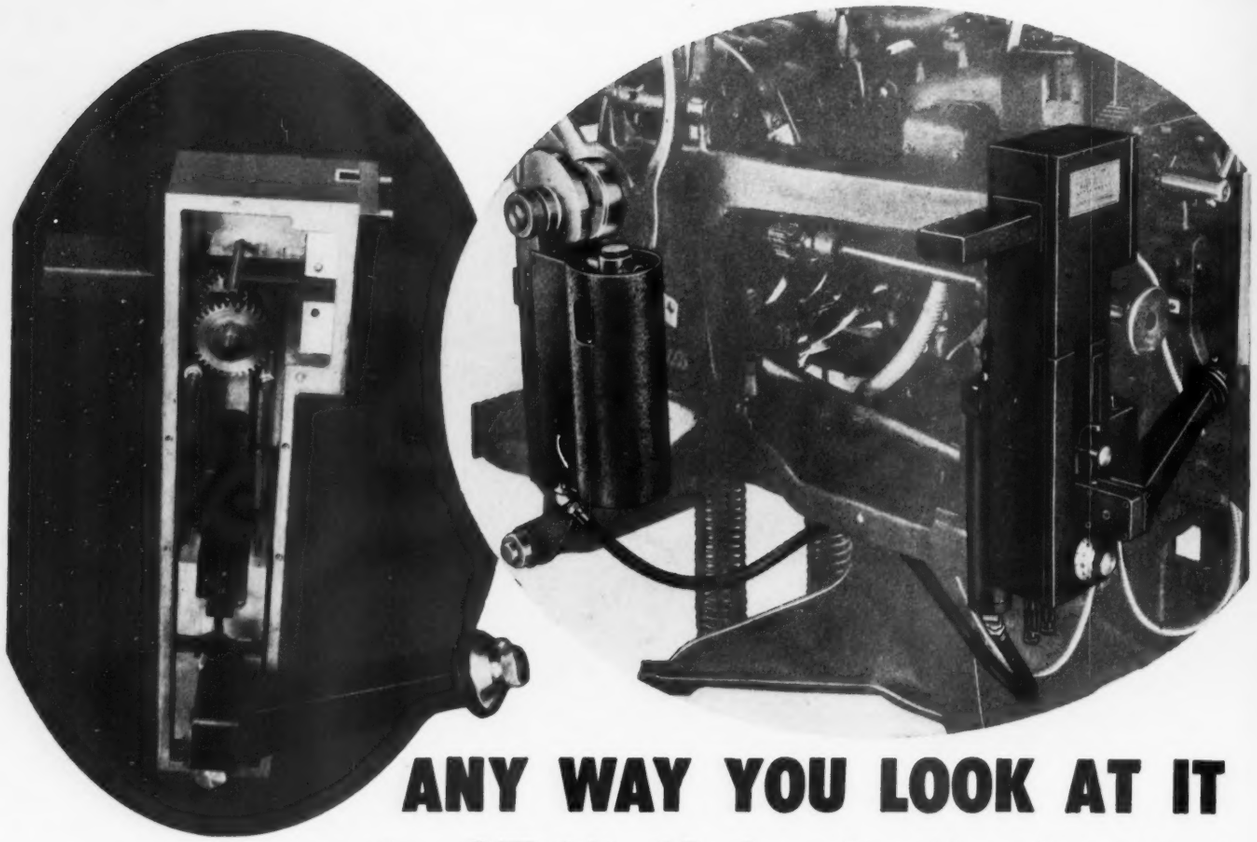
JUNE 1954

PRINTING EQUIPMENT *Engineer*

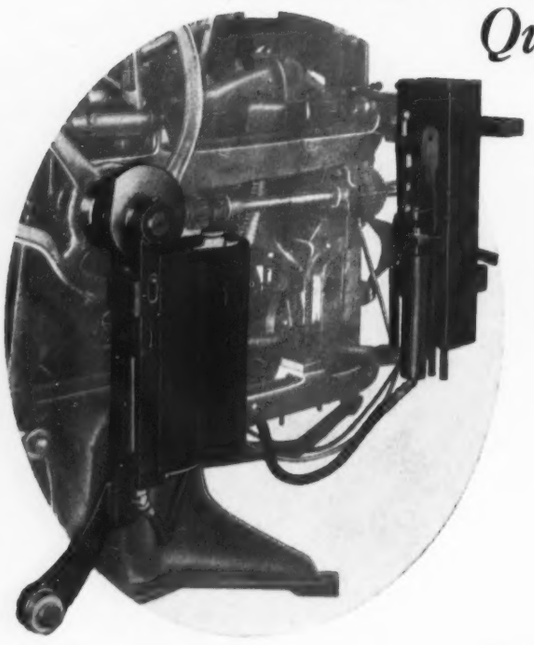
PLEASE ROUTE THIS COPY TO	
Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.
For filing, please return to	

AN INDUSTRY-WIDE
TECHNICAL PUBLICATION



ANY WAY YOU LOOK AT IT

the STAR Hydraulically Actuated Quadder does the Job BEST!



Best for the operator

He has a dependable, easily operated quadder that automatically eliminates troublesome hand quadding. That means more production with less fatigue at the end of the day. Quadded lines are actually set faster than justified composition.

Best for the machinist

Relieves the machinist of the worries usually present with other quadders. Maintenance is negligible. Many plants report "no down time" after long periods of operation.

Best for the owner

The Star Quadder is a favorite with the front office because it means more profit by lowering cost of composition, and reducing operation and maintenance expenses.

That's why the Star Hydraulically Actuated Quadder is the best available—any way you look at it! Write for descriptive folder with full details today.

Precision TRADE ★ MARK Parts

BRANCH: 1327 BROADWAY, KANSAS CITY, MO.
AGENCIES: CHICAGO • MINNEAPOLIS
LOS ANGELES • DENVER • BOSTON
CANADA: SEARS LTD. and Agents Overseas

LINOTYPE PARTS
Company, inc.
SOUTH HACKENSACK, N. J.

NEW YORK
Herald Tribune
Late City Edition
End of Trot Monopoly Ordered by Probe as Condition of License
Defense Chiefs Explain 'New Look' Strategy
Panama President's Wife Hits U. S. on Canal 'Bias'
Flanders Says McCarthy Tries to 'Shatter' Party
Sweeping Tax-Revision Bill Voted by Committee
Buried Pyramid's Outer Door Opened
Adams Proposes Police Hq Be Moved to Midtown Area
G. M. '53 Sales 10 Billion, Tax 1.2 Billion, Both Tops
Moran Still Is Silent on Higher-Ups
Newsom Track And Yankees Must Split Up
New White House Chef—the President
FRANCIS WAYLAND AYER
AWARD
FOR EXCELLENCE IN
NEWSPAPER TYPOGRAPHY

Everybody loves to congratulate a customer. We're particularly proud that the New York Herald Tribune has won the 1954 F. Wayland Ayer award for excellence in makeup, typography and printing. The fact that Morrill news inks contributed to that excellence makes us doubly proud.

A Division of Sun *Chemical Corporation*

Geo. H. Morrill Company

10th Street and 44th Avenue, Long Island City 1, N. Y.

STA-HI MASTER MATCHER

With the Master Matcher you can check and correct the register of all color copy (advertising, editorial, comics, magazine) **right in the mats, before plates are cast!** You can apply your own **accurate** register marks on these mats, whether molded in your plant or furnished from outside sources.

With the Master Trimmer you then use these same pre-determined, **accurate** register marks to trim each and every mat in a color set exactly the same, to assure uniform processing in the casting box and color plates that are in very close register the minute they go on the press!

STA-HI®

...your best buy

Sta-Hi Corporation
Box 152, Whittier, California

GET PRECISION COLOR REGISTER IN STEREOTYPE MATS BEFORE PLATES ARE CAST!

You can obtain the closest possible register of R. O. P. and other newspaper color printing, speedily and efficiently, when you use this modern, precision STA-HI equipment.

See the "picture story" of the Master Matcher and Master Trimmer and get complete details at Sta-Hi's ANPA Mechanical Conference "headquarters"—Booth No. 2 in the Exhibit Hall . . . And also see a demonstration of the brand new **Sta-Hi Vacuum Flat Former!**

STA-HI MASTER TRIMMER

Salute!

8-TIME WINNER

of the F. Wayland Ayer Cup, Awarded "for Excellence in Typography, Make-up and Printing."

SCOTT Salutes a great newspaper, published in New York and Paris, and known around the world for its comprehensive news coverage, editorial vigor and high standards of journalism.

The Herald-Tribune maintains high standards in its mechanical departments; also, and excellence of "typography, make-up and printing" is a tradition with this newspaper.

Scott Extra-High Speed Presses have served for many years in the Herald-Tribune's pressroom. There, every day, through every edition, they meet all requirements for production speed. Their convenience and flexibility for accommodating quick changes is unequaled. They respond to every demand without sacrifice of printing performance.

What Scott Presses do for the Award-winning Herald-Tribune they can do with equal facility in your own pressroom, day after day, year in and year out. When you "Buy Scott," you can have confidence that you are giving your pressroom the utmost mechanical assistance in producing newspapers of fine appearance — appearance that reflects the painstaking attention given to all departments of your publication.

WALTER SCOTT & CO., INC.

PLAINFIELD, NEW JERSEY

S-54-7

PRINTING EQUIPMENT Engineer

June 1954

An industry-wide technical magazine published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

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Printed in U. S. A.

AN INDUSTRY-WIDE TECHNICAL MAGAZINE

With Imperial Type Metal and Imperial Service you are always sure of metal uniformity—free from the extra costs of imperfect casts, machine shutdowns and other production losses for which type metal deterioration is frequently responsible.

You will profit by asking for full details. Write to nearest address below.

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

The Direct Route . . .

from copy to hot metal to form

● With a Ludlow machine on the floor and fonts of Ludlow matrices in the cases, the composing room is always ready to meet the unpredictable quantity demands of future copy, and to handle them efficiently and rapidly without delay. It is unnecessary to purchase or to manufacture any type whatsoever, or to lay it in the cases.

● This freedom from worry about type supply, the provision of new, sharp, and unworn sluglines for every job or ad, and the facility of being able to keep standing any jobs, ads or pages without in any way depleting the type supply, place the Ludlow-equipped printer head and shoulders above any competitor dependent upon single type composition.

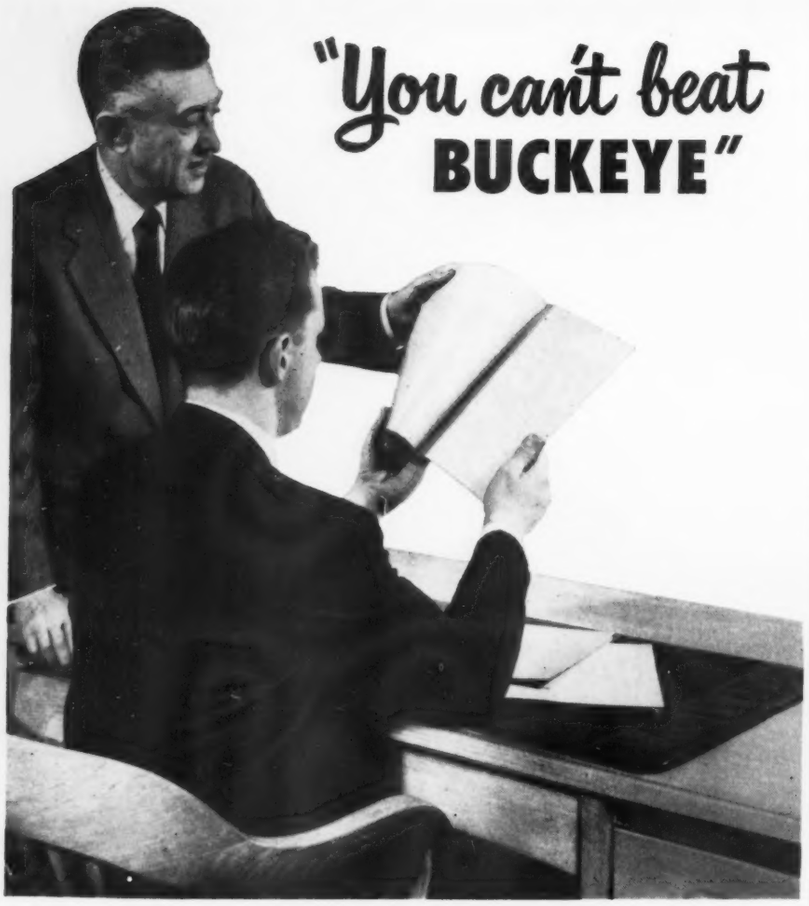
● With hot metal in the crucible, the Ludlow stands ready to meet any demand. Composition is produced direct from live copy. Matrix setting, line and letter spacing, and casting of sluglines are exceedingly simple operations. The selection of typefaces and point sizes is limited only by the Ludlow matrix fonts in the cabinets, and the time required for setting, spacing and making up the completed form is considerably less than with a form set from single types.

● With Ludlow equipment, the modern printing plant always has adequate composition facilities ready for use when needed. Ludlow composition is economical because it actually is one-cost composition, in which both type manufacture and type distribution are included in a larger percentage of chargeable time.

● Your plant needs the Ludlow to meet the requirements of present day competition. Like hundreds of others, you will find that with the Ludlow you can produce finer typography with greater efficiency and at a lower cost. Full information will be sent you gladly upon request.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

Set in members of the Ludlow Tempo family



"You can't beat BUCKEYE"

It's a phrase you hear often when selection of a cover stock is being made.

Printers and agency production men know, from experience, that you cannot beat Buckeye Cover; most of them will say you can't even match it—for printability, for durability, for scorability and foldability.

Remember, if you want *your* catalogue, or booklet or house organ to be read from cover to cover—be sure it *has* a cover. To make assurance doubly sure, insist on BUCKEYE Cover.

There's a world of inspiration for the creative man in the wide range of colors and finishes in the Buckeye Cover line. Complete sample book will be sent on request to any cover paper user.

THE BECKETT PAPER COMPANY

MAKERS OF GOOD PAPER IN HAMILTON, OHIO, SINCE 1848

BUCKEYE - BECKETT PAPERS

Equipment and *Supplies*

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, O.

Preset Electronic Counter

An electronic counter has been developed by the Electronic Products Div., Post Machinery Co., which permits total-

izing counts in any quantity from one up to and including one million. Known as the Quadruple Preset Decitron, the unit is designed for counting by dozens, hundreds, gross lots or any other combination. The counter may also be equipped with a horn, buzzer or similar warning device for advance warning that the desired total has been nearly counted. Sponsor claims the unit is capable of accurate counting at high speeds. For further information on the Post counter please mention PEE No. 161 in your request.

Tubular Infrared Lamp

Development of a new type of infrared lamp for various industrial heating and drying applications has been announced by General Electric Co.'s Lamp Div. The lamp is tubular shaped, slightly larger in diameter than a cigarette, and is made of fused translucent quartz.

First application of the lamp is expected to be in industrial radiant drying and baking ovens. Other applications for the Graphic Arts industry, such as in stereotype mat work, have been suggested.

The following features are claimed for the lamp by G-E: Produces higher energy concentrations in a small space (100 w./lighted inch of tube length); produces full radiation almost instantly; produces visible light as well as infrared radiation; light in weight (500 w. size weighs ¾ oz.); and requires little maintenance.

Sponsor also states the lamp is designed to withstand high temperatures and the shock of violent temperature changes. Sizes available include a 500 w., 115-125 v. lamp and a 1000 w., 230-250 v. lamp. These are designed with lighted lengths of 5 in. and 10 in. The heating element

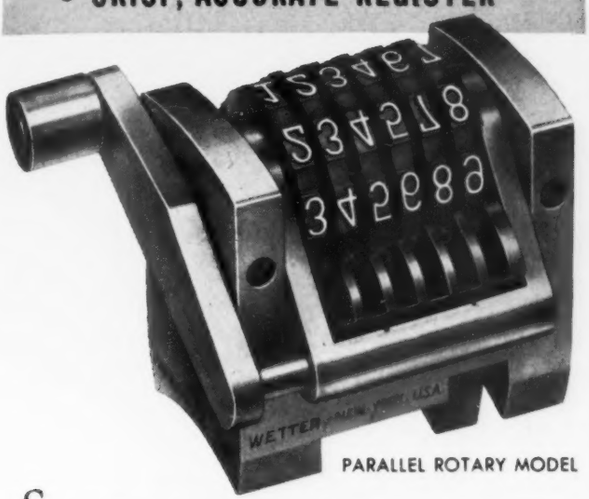
(*Continued on Page 10*)

You can't gamble with numbers...

...They make or break a perfect printing job!

ONLY WETTER NUMBERING MACHINES GIVE YOU CONSISTENTLY

- **PERFECT NUMBER SEQUENCE**
- **CLEAN, SHARP IMPRESSIONS**
- **CRISP, ACCURATE REGISTER**



PARALLEL ROTARY MODEL

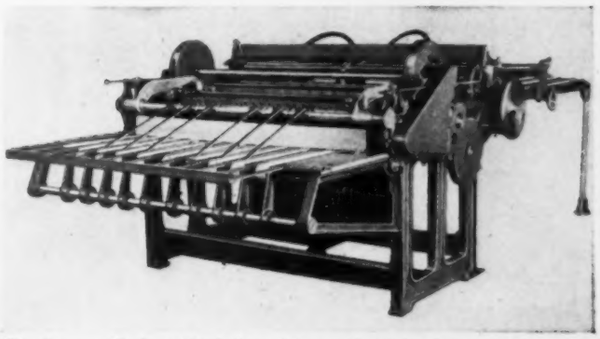
Specially designed for today's rotary presses, this sturdy cam-actuated machine accurately prints numbers in a line parallel to the axis of the impression cylinder. Features: rugged number wheels with heavy-duty ratchets in a one-piece, curved-base steel-frame; custom-curved number faces conform to cylinder curvature; easy mounting with Wetter Quik-Lok clamp base saves set-up time, eliminates mounting-ring adapters. Available in either Roman or Gothic style figures.

Number *right* and number *better* . .
. . *always* number with a WETTER!

Write for free descriptive folder today.

WETTER NUMBERING MACHINE CO.
ATLANTIC AVENUE & LOGAN STREET · BROOKLYN 8, N.Y.
ONLY UNION MADE NUMBERING MACHINE IN U.S.A.

Folds, slits and stacks four-page jobs at up to 12,000 sheets per hour



The Dexter-McCain High Speed Single Fold Folder

With the Dexter-McCain High Speed Single Fold Folder, covers, inserts and other four page jobs, singly or in gangs, are folded, slit apart and stacked on flat delivery at speeds of 10,000 to 12,000 sheets per hour, depending on quality and condition of stock.

Maximum size sheet handled is 24 x 50"; minimum size 12 x 18".

This machine is also equipped to handle center bleed trimming. It has continuous air wheel feeder, is rigidly constructed and has ball bearings and roller gears, hardened and ground.

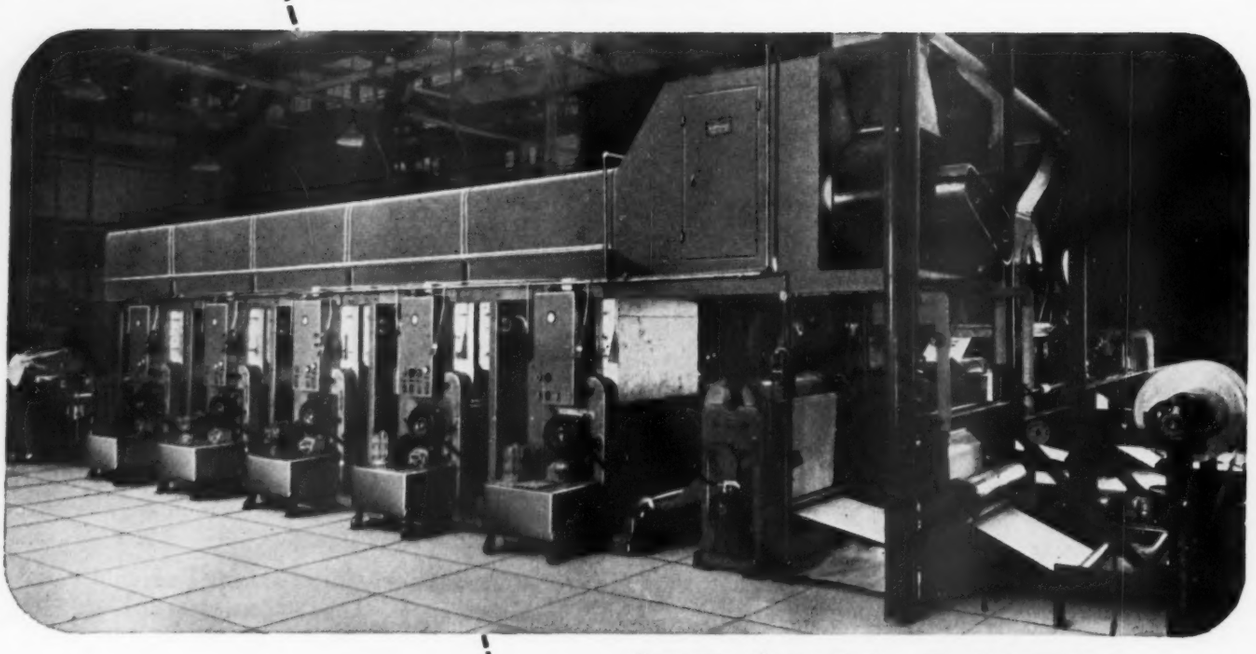
A valuable feature of this folder is that it folds with ease covers and other heavy stocks which are difficult to handle on other types of folders.

This machine is now being used mainly to fold long runs of covers for magazines of large circulation.

Our representative will give you further information about this high speed, single fold folder.

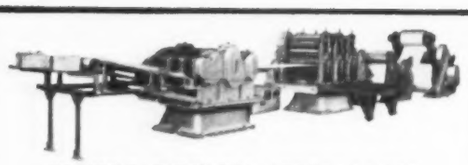
Dexter Folder Company
General Sales Offices
330 West 42nd Street, New York 36, N. Y.
Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis
Agents in principal foreign countries

CARTONS WRAPPERS LABELS



require the **HEAVY DUTY**

Staude "1000" ROTOGRAVURE



STAUDE ROTARY LETTERPRESS

Best known for making paper milk bottles at a production rate of over a quarter million a day. Printing cylinder circumference; maximum 32"; minimum 16"; 26" actual printing width.

STAUDE BUTT SPLICER

makes a perfect splice without stopping the press.

Consider such features as integral assembly for fast changeover . . . 1,000 ft. per minute . . . 360° running register . . . exclusive doctor blade mounting for easy accessibility. Printing width 26" to 42"; circumference 23" minimum; 46" maximum. A letter or phone call will bring complete information on this versatile inline equipment.

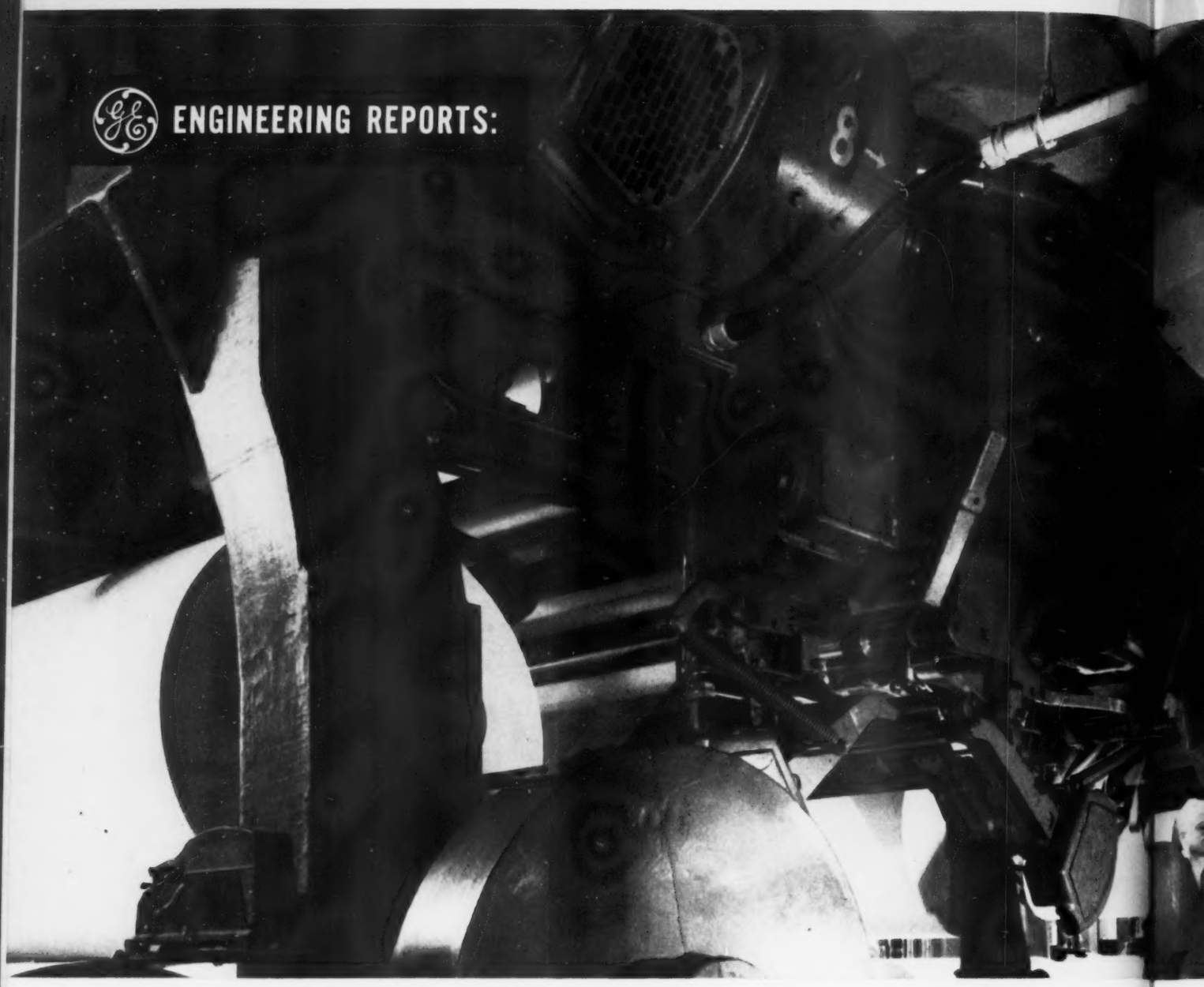
E. G. Staude MFG. COMPANY, INC.
2675 University Avenue
St. Paul 14, Minn. • NEstor 7151

MERCURY PRODUCTS

To protect your investment in MERCURY Rollers and Blankets, they are built to the most exacting standards in the industry and subject to the most rigid inspection. That is why you get finer reproduction—every time—with these superb accessories. Rely on MERCURY.

RAPID ROLLER CO.

FEDERAL AT 26TH ST. • CHICAGO 16, ILLINOIS



Oakland Tribune's new G-E electronic press drive accelerates smoothly, reduces web breaks

Powered through electronic control, 10 G-E d-c drive motors rolled the Oakland Tribune's new Hoe Press for the first time early in March, 1953.

A G-E Service Engineer worked closely with the *Tribune* and on the day following final mechanical adjustments, March 13, the first edition came off this 50,000 pph press. Since that time it has been in continuous operation.

Joining a long list of newspapers using the G-E Electronic Press Drive, the *Oakland Tribune* is now taking advantage of this drive's flexibility and smooth operating characteristics. Like the other newspaper publishers across the country using this electronic press drive, the *Tribune* realizes that —

1. The smoothness of operation, both starting and stopping, results in fewer web breaks and more production.

Stepless speed adjustment eliminates web-breaking jerky speed jumps. The press climbs from threading to full-speed smoothly and easily. When stopping, dynamic braking on each unit brings the press to a smooth stop. The cost of brake adjustment and maintenance is eliminated.

2. The wide variety of press combinations makes this an extremely versatile and flexible drive.

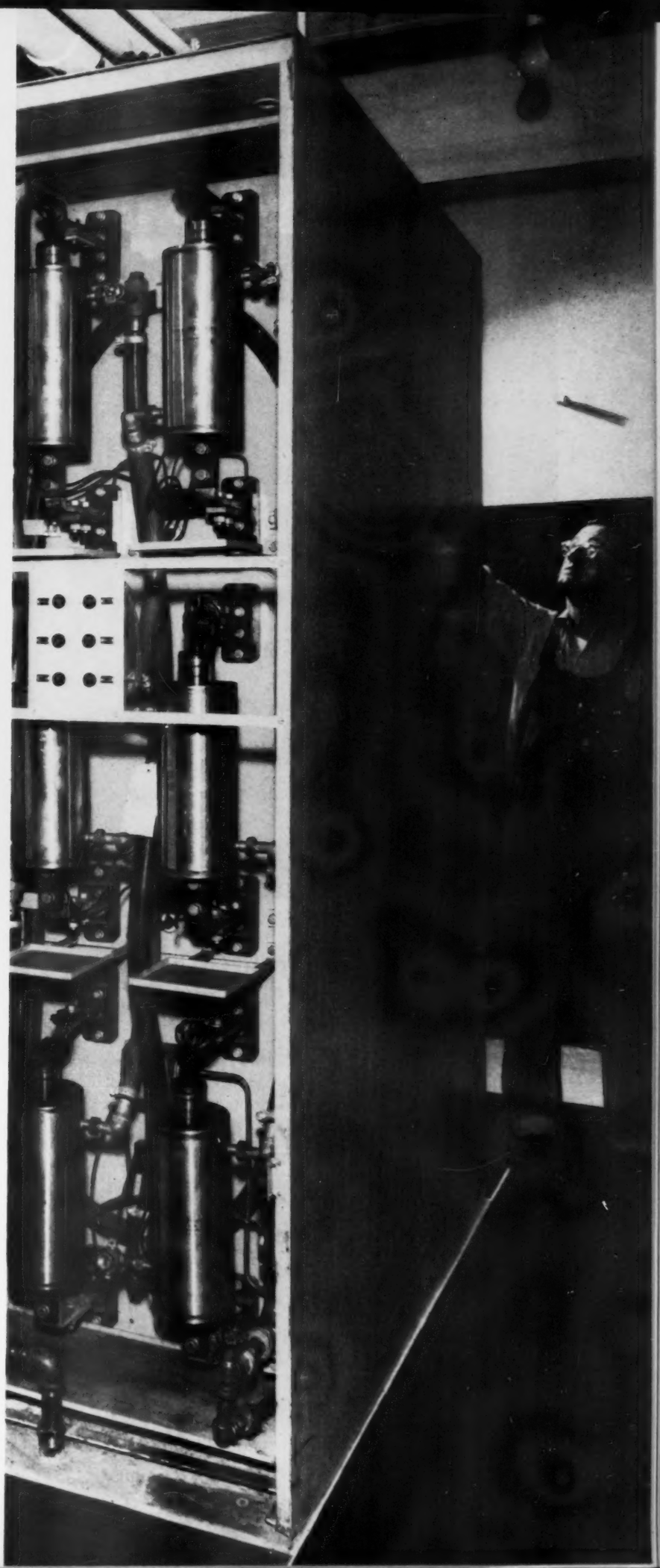
With an individual drive motor for each press unit and folder, each motor handles threading, inching, running, and braking for its unit. Since any combination of press units can be arranged, the *Tribune* can meet varying production schedules as well as possible color runs.

Besides flexibility, the individual drive system is "production insurance." In the event of motor failure, two-thirds of the motors will operate all units of the press at above two-thirds speed.

Investigate this modern drive for use on your newspaper press. G.E.'s application and sales engineers will be glad to discuss it with you. Contact your nearest General Electric Apparatus Sales Office or write for Bulletin GEA-5523. General Electric Company, Section 653-33, Schenectady 5, N. Y.

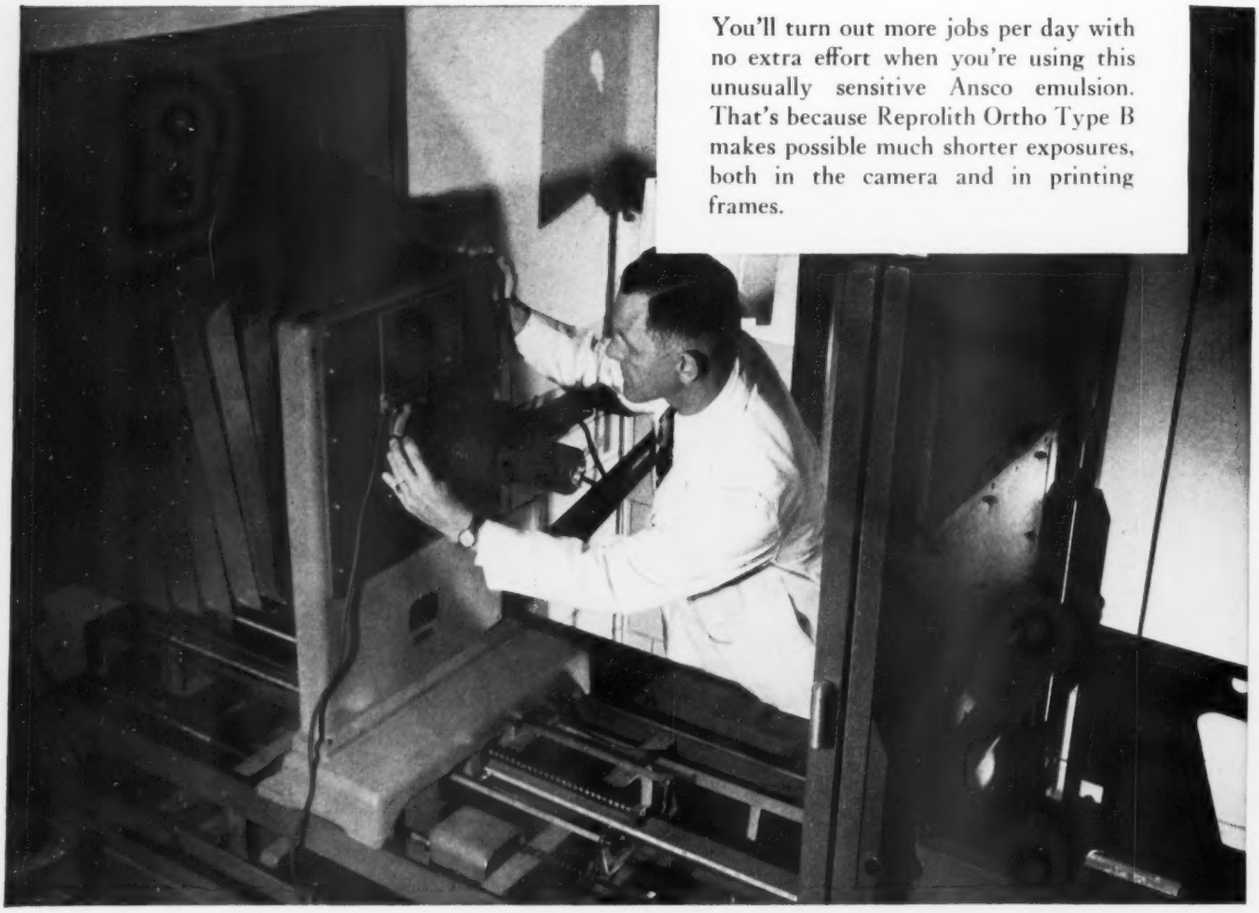
GENERAL ELECTRIC

All power requirements are handled on the Oakland Tribune's new Hoe Color Convertible Press with 10 individual G-E drive motors. Individual adjustable-speed drives on each press and folder unit eliminate the need for slow motion motors, over-running clutches, and drive and press brakes. Fire hazards are reduced, maintenance costs lowered by force ventilating of motors.



Giving the Oakland Tribune economical flexibility and close speed control, the ignitron rectifier controls and powers the drive. Operating to supply adjustable voltage to the motor, these units are designed in "building-block" fashion to accommodate future units. All components are easily accessible through full front and back doors.

Step up your production with Ansco Reprolith Ortho Type B Film



You'll turn out more jobs per day with no extra effort when you're using this unusually sensitive Ansco emulsion. That's because Reprolith Ortho Type B makes possible much shorter exposures, both in the camera and in printing frames.

Reprolith Ortho Type B Film gives you a more efficient shop through these advantages

VERSATILITY—Negative and positive halftones or line work, whether the copy is multicolored or monochromatic, can be made on Reprolith Ortho Type B.

FULL ORTHOCHROMATIC SENSITIVITY—Filters may be used for improved copy rendition, thereby reducing handwork on negatives.

HIGHER SPEED—Shorter exposures are possible, with or without filters.

You Get Top-Notch Quality, too

Clarity in white areas . . . high resolving power . . . fine dot etching properties . . . high contrast . . . wide developing latitude.

Put your shop on Ansco Reprolith Ortho Type B Film. You'll be pleased with the results.

IN THE GRAPHIC FIELD IT'S ANSCO

ANSCO, Binghamton, New York. A Division of General Aniline & Film Corporation. "*From Research to Reality.*"

Two gears drive six tons of paper, maintain eyelash alignment

...with help of TIMKEN® bearings

PRECISION is an adjective that is applied in its truest sense in describing the Goss Reel-Tension-Paster. At the installation shown here, the fully automatic paster splices webs at normal running speed of 48,000 newspapers an hour, while the reel handles almost six tons of newsprint in three big rolls.

Turning that big mass of paper puts heavy loads on the machine's gears and worm wheel. So to keep all gears in accurate mesh, Goss mounts them on Timken® tapered roller bearings. It's one of the many fine engineering features of this new machine.

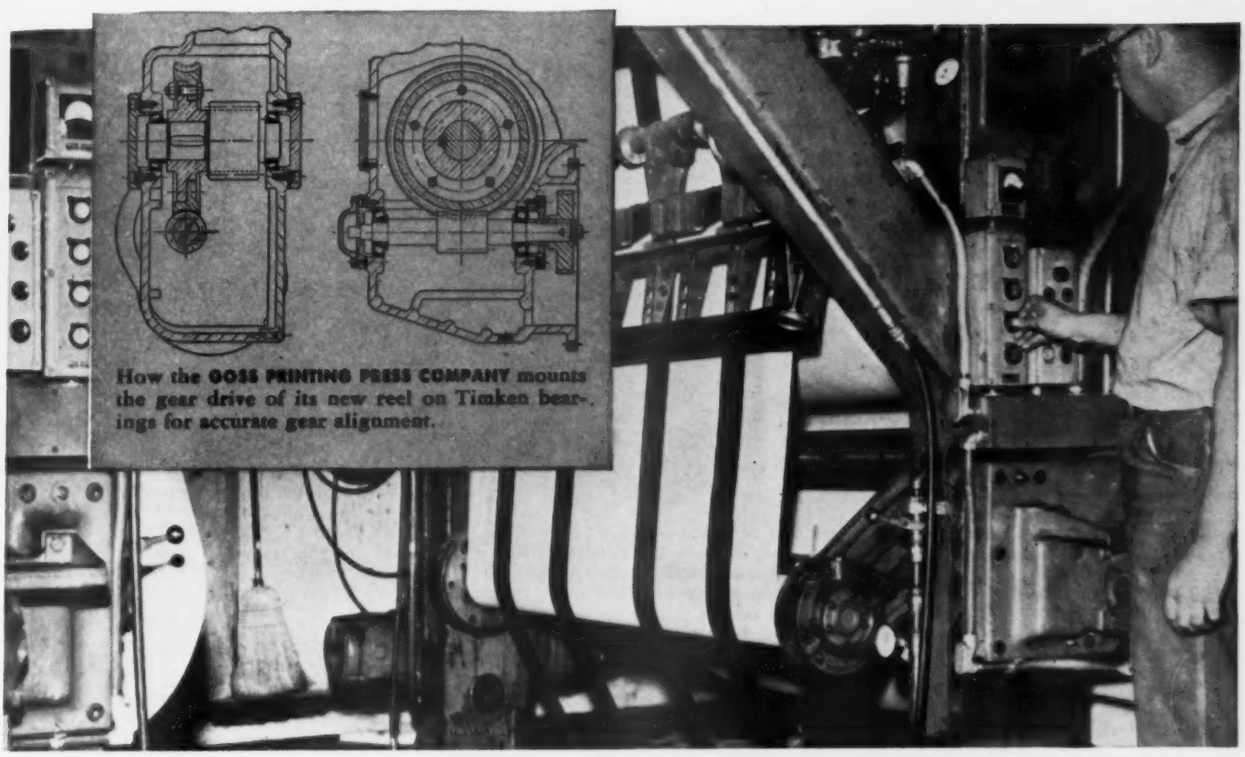
Timken bearings are able to keep these gears in accurate mesh because they carry the load on a full line contact between the rollers and races. And Timken bearings are built to accurate tolerances, help keep the gears in eyelash alignment.

These worm gears put heavy sidewise *thrust* loads on the bearings as well as radial loads. Timken bearings eliminate the need for extra thrust devices because their tapered design enables them to take both radial *and* thrust loads in any combination.

To make bearings of uniformly high quality, we need uniformly high-quality steel. So we make our own steel. It's an important extra step and no other bearing company in the U. S. A. does it.

Timken bearings are a sure sign of quality on the machines you buy, the machines you build. Always look for the trade-mark "Timken". The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



How the **GOSS PRINTING PRESS COMPANY** mounts the gear drive of its new reel on Timken bearings for accurate gear alignment.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

FINISHED TO CLOSER TOLERANCES

Finishing to incredible smoothness accounts for much of the precise, smooth rolling performance of Timken bearings. This honing operation is typical of the amazingly accurate manufacturing methods at the Timken Company.

The Timken Company is the acknowledged leader in: 1. advanced design; 2. precision manufacturing; 3. rigid quality control; 4. special analysis steels.

NOT JUST A BALL ◯ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL AND THRUST → ← LOADS OR ANY COMBINATION

Equipment & Supplies

(Continued from Page 8)

is a coiled tungsten filament. More information on these lamps may be obtained by referring to PEE No. 163 in your request.

Proofing Stereo Mats

The Hampden Newspaper Mat Reproduction Kit is designed to enable securing a quick rub-off proof of a stereotype mat or section of mat which is to be reproduced in a new newspaper advertisement. Instead of marking the old mat from the file (a section of which is to be used in the new advertisement), the Reproduction Kit is used as follows: The molded mat is laid face up on a table; a sheet of special carbon-like paper is laid face up on the mat over the illustration which is to be used in the new advertisement; over this is laid a sheet of white paper; next the assembly is fastened under a spring clamp on a clamping board furnished with the kit; then an applicator (thick piano felt) is rubbed edgewise over the white paper successively in two directions. Pressure of the applicator causes some of carbon-like coating to transfer to the sheet of white paper. The resulting copy is positive reading. Then the advertising department or the person preparing the ad copy can paste the illustration in the layout for the new advertisement. Further information about the Hampden Reproduction Kit will be furnished upon mentioning PEE No. 167 in your request.

here's how Rouse REDUCES YOUR TIME COSTS

CUT A FULL GALLEY OF MIXED MEASURES SLUGS IN ONLY 35 SECONDS

Rouse BAND SAW

No more gauge setting! No more reclamping or measuring! That's why the Rouse Band Saw offers you by far the most economical way to accurately cut slug lines to different measures in the shortest possible time. No other machine nor method can even come close to this achievement.

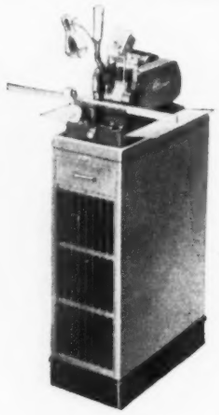
If you operate one or more linecasting machines on variable measure composition, the Rouse Band Saw will do the work of hours in minutes. Expensive time saved will be unusually great in work requiring frequent changes in line measures, such as ad work, catalog runaround work, etc.

NEW ROUSE CATALOG

Write for your copy TODAY!

CUT 1000-1200 ACCURATE MITERS IN ONLY 1 HOUR

Rouse POWER MITERER



If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters from strip material. That's how the Rouse Power Miterer can slash your time costs by doing work in minutes that now takes hours. It quickly pays for itself in expensive time saved.

From the smallest job shop up to the largest plant, only Rouse makes a Power Miterer for every type of use. Can be bought as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse Time-Saving Products for Printers

H. B. ROUSE & COMPANY
2214 N. WAYNE AVENUE, CHICAGO 14, ILLINOIS

MITERING MACHINES
LEAD and RULE CUTTERS
COMPOSING STICKS
TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

ROUSE PRODUCTS—THE STANDARD OF THE WORLD FOR 50 YEARS

Offset Filing Cabinet-Work Bench — Officials of Foster Mfg. Co. have announced a 60 in. by 24 in. by 38 in. filing cabinet for storage of equipment and supplies needed to operate a 10 in. by 14 in. offset press. The cabinet, furnished with a work bench, is finished in baked enamel and is mounted on swivel wheels. For further information, please specify PEE No. 168.

Motor Selector Bulletin

Reliance Electric and Engineering Co. has issued a 12 page illustrated Motor Selector bulletin No. B-2102 in which are featured both new line and current line squirrel cage induction motors in applications ranging from 1 h.p. to 200 h.p. In this bulletin are listed performance characteristics, construction features, dimensions, price and other information. Copies of bulletins are available by requesting PEE No. 162.

Liquid Level Control

Photoswitch, Incorporated, has announced the Level Control Type 13DJ3 for controlling the level of electrically conductive liquids. The control consists of an electron tube amplifier and relay combination which operates from minute currents in the probe circuit. Contact

with the liquid is made by corrosion-resistant stainless steel probe rods. Sponsor claims accuracy is independent of temperature and pressure.

A single control, through flexible termi-

(Continued on Page 22)

now serving

117 subscribers

With a Wealth of Timely

ROP COLOR

Editorial and Advertising Subjects — for Immediate Use at Minimum Cost!

COLOR SERVICE

ROP COLOR brings new appeal...v g
new impact...new reader interest hew

ROP COLOR SERVICE makes it possible for you to print COLOR in your newspaper

No need to wait until you set up a color production department in your plant. You can get into newsprint color printing immediately — without expensive color plates, without expensive color art, without expensive color photography.

Now, instead of each newspaper bearing the full cost of color reproduction for one insertion in only one market, R O P COLOR SERVICE makes the combined color material of many newspapers available to subscribers at a fraction of original cost. You draw on the color printing experience of newspapers all over the country — simplify your own color printing problems — get better results — faster!

...y glamor...
st newspapers

Each Issue of the Weekly Color File Brings You:

Scores of color subjects — editorial features, advertising pages, letterpress magazine covers, national advertising color material, material from The Milwaukee Journal, material from contributing newspapers, original color pages provided by national advertisers on a co-operative cost basis, pages specifically designed for special occasion promotions, and—best of all—all this material is ready in mat or plate form—ready for flat casting, hot or cold molding, or for casting press plates complete with local copy changes, dealer lists and local market adaptations.

See ROP Color (Lakeshore) display with ANPA convention exhibits

COLOR SERVICE

COLOR SERVICE

. . . tailor made to ease the problems of newspaper production departments

Are you now printing color? Here are high grade reproduction materials to help you.

Are you planning to print color? Do your experimenting with easy to use, readily available color material from ROP Color Service—make your selections — order high grade color reproduction material supplied by Lakeshore Electrotype Co., Chicago. Recommended are:

Full page, full color process, 3 plates (no black plate) order Super Bista Pre-madeready mats.

Full page, full color process, 4 plates, no change in copy, order Super Bista mats.

Full page, full color process, 4 plates, with change in black copy, order Reilly Colortone Plates and make your own changes in black plate as you would if working with metal plates, or:

Furnish type, engravings, or glazed proofs of copy to be substituted for original black copy to Lakeshore Electrotype Co. Lakeshore will substitute your copy before making mat of black plate for your newspaper.

Tabloid pages, magazine feature material and other subjects, order either Super Bista mats or Reilly Colortone plates.

For full details, write, phone or wire:

THE MILWAUKEE JOURNAL

COLOR SERVICE

FOR NEWSPAPERS

Milwaukee 1, Wisconsin **BRoadway 1-60**

For sharper R.O.P. color Oregon Journal pressmen advise "Spherekote" Drawsheets

GEORGE BELTZ (left), Press Foreman, and GLENN YOUNG, Pressroom Superintendent, Oregon Journal, inspecting work done by "Spherekote" Drawsheets.

Read this statement by Mr. Glenn Young, Pressroom Superintendent, Oregon Journal:

"We at the Oregon Journal are proud of our product. 'Spherekote' Brand Drawsheets have improved our overall printing while giving us months of extra wear. They reduce first impression offset and give us sharper three-color R.O.P. printing."

Every day, more and more pressmen join in praising "Spherekote" Brand Drawsheets. They've found from profitable experience that these tough, glass-surfaced draws clean up first impression pages—solve offset problems for keeps.

Why not try this superior press packing *yourself*? You'll get the same good results.

Check these facts on "Spherekote" Drawsheets

"SPHEREKOTE" DRAWS GIVE: More preferred positions for cuts and advertising ✓ faster make-up ✓ tighter papers ✓ fewer press stops for replating ✓ no waste copies from first impression offset

REG. U. S. PAT. OFF.

SPHEREKOTE

BRAND

DRAWSHEETS

The term "Spherekote" is a registered trademark of Minnesota Mining and Manufacturing Company, St. Paul 6, Minnesota. General Export: 122 E. 42nd St., New York 17, N. Y. In Canada: London, Ontario, Canada.

3M

CLIP and MAIL

FREE SAMPLE!

MINNESOTA MINING AND MFG. CO.
DEPT. PEE-64, ST. PAUL 6, MINN.

Please send me free 3″ x 5″ "Spherekote" Drawsheet swatch with complete information.

NAME.....

COMPANY.....

ADDRESS.....

.....

Equipment & Supplies

(Continued from Page 16)

nal panel connections, provides for operation as either a pump-up or pump-down control, or a high or low level safeguard. The control is universal for either 115 or 230 v., 50/60 cycle supply.

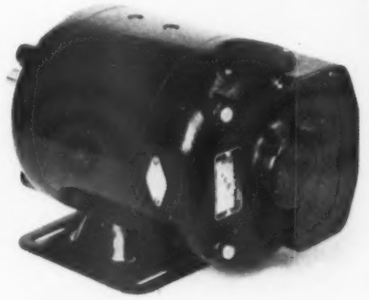
Photoswitch states that positive control of these liquids results from the wide resistivity range over which the probe circuit operates. The control may be located at distances up to 100 ft. from the probe installation. Additional information on this device may be obtained by mentioning PEE No. 152 in your request.

Zel-Tex Ink Roll Cleaner — An ink roll cleaner, Zel-Tex LR 5, is being offered by the Zel-Tex Co. The product, said to be factory-guaranteed to retard distortion and rubber cracking, is also claimed to be fast-acting, and non-injurious to hands. It is sold in 55-gal. barrels at $1.85 per gal., delivered. For additional information, please state PEE No. 157 in your request.

Improved G-E Motors

An enlarged terminal box and improved brush mounting are new features of General Electric Co.'s line of 60 and 70 frame, d.c. motors. The terminal box has been enlarged to six-lead capacity to facilitate installation. The motor's basic dimensions remain unchanged.

Rubber mounted bearings have increased life and give quieter operation with less vibration, according to G-E engineers. Sponsor states the brush assembly is designed for increased creepage distance and higher dielectric strength. A heavy duty, die-cast aluminum fan has been added to the model to provide better ventilation.

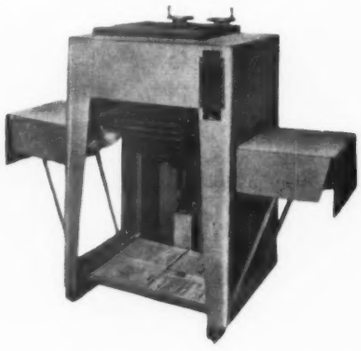


Suitable for general-purpose, constant-speed applications, the motors also may be operated at variable speeds by derating, or re-connected for operation as a shunt motor, self- or separately-excited. With speeds of 1725, 1140, or 860 r.p.m., the motors are available in ratings of 1/3, 1/2 and 3/4, h.p. and 115/230 v. Please request PEE No. 166 if further information is desired.

Space-saving Vertical Camera

Floor space of the Kenro vertical-type camera, announced by Kenro Graphics, Inc., is 26 in. by 63 in. Intended for use in offset plants, the unit may be operated inside a darkroom or in any location in the plant in conjunction with a 4 ft. by 4 ft. loading and developing closet.

Known as the Model 11-17-C Kenro Camera, the following features are claimed: Automatic sizing and focusing by setting number counters from the Kenro chart; exposures for both line and halftone copy; visual and automatic developing system with the aid of the Kenro developing scale.



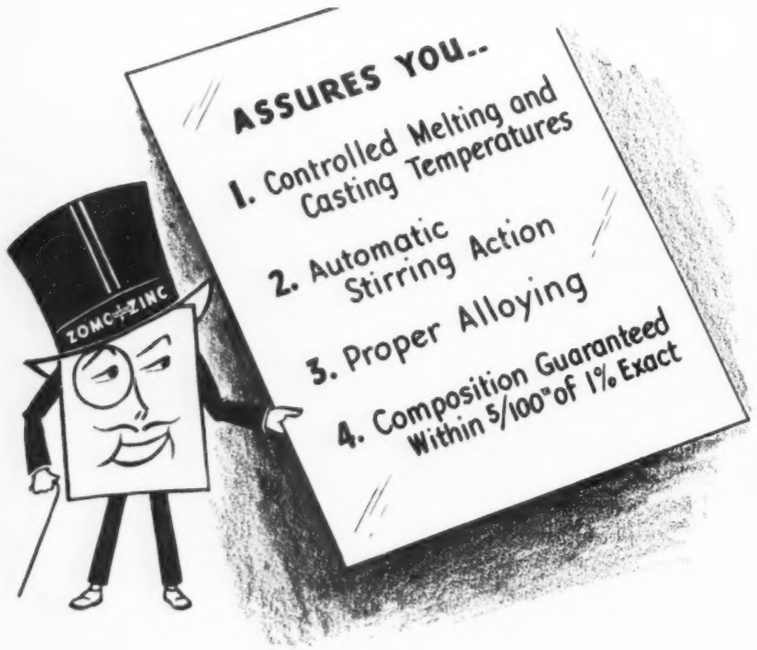
Line copy is illuminated with four 150 w. lamps, while for halftone contact screen work, two mercury vapor lamps of 275 w. each are used. The unit operates on 6 amps., 115 v., a.c. An automatic timer is built into the camera. Max. film size is as follows: 14 in. by 18 in. for line work, and 10 in. by 12 in. for halftones. A 17 in. by 22 in. magnesium copyboard is provided with a rubber pad and floating glass cover for accommodating copy up to 1¼ in. thick. Adaptor

(Continued on Page 24)

UNIFORM

COMPOSITION . . .

. . through the Electric Induction Process


ASSURES YOU..
1. Controlled Melting and Casting Temperatures
2. Automatic Stirring Action
3. Proper Alloying
4. Composition Guaranteed Within 5/100% of 1% Exact
ZOMO-ZINC

Every sheet of ZOMO ELECTRIC ZINC and A–Z ALLOY Metal is made by the Electric Induction Process. For dependable, smooth, fast etching, specify these metals through your regular supplier.

ZOMO ELECTRIC ZINC ◆ A-Z ELECTRIC ALLOY

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For faster, more economical production of a better looking newspaper, more and more newspapers depend on EASTERN for equipment and supplies!

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FOR THE COMPOSING ROOM

From GALLEYS *to* STEEL CHASES

FOR THE PHOTO-ENGRAVING DEPARTMENT

From ROUTING CUTTERS *to* RADIAL ARM ROUTERS

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From PRESS BLANKETS *to* NEWSPRINT STACKERS

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ORDER FROM THE NEW EASTERN CATALOG #12. If you do not have a copy of this comprehensive catalog, write for one today!

Pledged to Help **the mechanical men**

For nearly 40 years Wood Dry Mats have been produced to a high standard of quality based on a pledge to do everything possible to help the mechanical men maintain or improve the quality of newspaper reproduction.

Through the years this pledge has worked to keep Wood Dry Mats in pace with more exacting requirements of reproduction. Continual research, constant testing and improved methods of manufacture have succeeded in enabling us to offer you the best dry mat on the market.

In addition to a superior mat, we also offer the best assistance and counsel available through the Wood Flong representative in your area.

WOOD FLONG CORPORATION *Oldest In The Country*

WOOD DRY MATS
ALWAYS UNIFORM

HOOSICK FALLS · NEW YORK *First In The Field*

NEW YORK CITY OFFICE: 551 FIFTH AVENUE • NEW YORK 17, NEW YORK

Equipment & Supplies

(Continued from Page 22)

backs are available for Xerographic copy work as well as conventional film holders for continuous tone negatives.

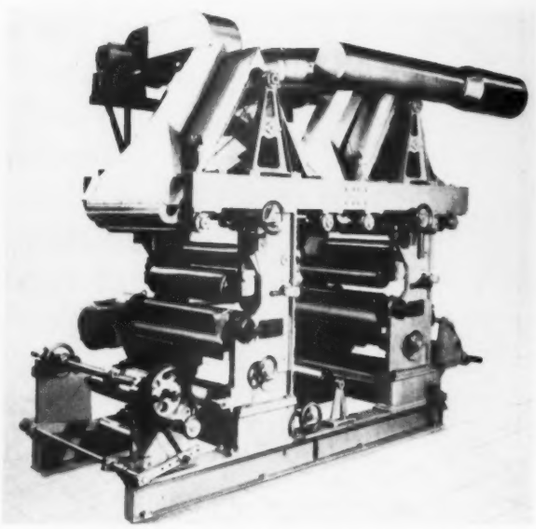
The camera may also be used in newspaper advertising departments for making 60 line screen Velox prints to size. This permits the advertiser to check screened art copy before actual release. Lens and copyboard movement are controlled by precision screw threads actuated by handwheels. Please refer to PEE No. 139 for further information.

Direct-Image Offset Process Instruction Manual

A step-by-step procedure on how to make a direct-image offset printing plate following the d.i. Offset Process is outlined in a 16 page manual prepared by the d.i. Offset Div., Standard Rate & Data Service, Inc. The d.i. plate is made from a regular type form impression pulled on a proof press directly on a dry-grained aluminum foil offset plate. After processing, the plate is ready for the press. A description of the direct-image plate appeared in the June 1952 issue of *Printing Equipment Engineer*. The manual includes illustrations and descriptions of the material necessary for making such a plate, and then goes into the step-by-step technique. Included also is an explanation of how d.i. offset color plates are

(Continued on Page 26)

ATF Rotogravure Press—A two-color small size rotogravure press has been developed by the Mount Vernon (N. Y.) Div. of American Type Founders. Named the Economette, it has been designed primarily for printers wishing to enter the rotogravure field, but it can be used as auxiliary equipment for those already in rotogravure. Sponsor states it is precision-made to exact standards and close tolerances and will print in two colors at speeds up to 250 ft. per min. Handling material up to 31 in. wide, its flexibility permits printing on cellophane, glassine, polythylene, laminated foils or paper, for the packaging industry. It is also claimed the engraved cylinders are quickly removable for changes, and that adjustments permit the web from the unwind roll to be aligned with the engraved cylinders. The Economette is equipped with a pendulum action impression roll. The printing pressure for each color, once set by a control at the beginning of the run, is maintained by this device. The ink fountain in which the engraved cylinder rotates is furnished with a combination filling and draining spout that permits ink changes. The press is designed to assure accurate control of register at any speed, it is stated. The oscillating stroke of the doctor blade assembly is adjustable for all ink conditions, and drying is accomplished by means of individual motor driven fans delivering air through thermostatically controlled electric heaters and air ducts. The press will accommodate cylinders from 4 in. to 8 in. diam., and from 12½ in. to 25 in. circ. Balanced idlers are machined to rotate with all web material at any speed. The rewind stand is controlled by manually setting the spring loaded friction disk drive for any tension. Operating safety is assured when volatile inks or inflammable materials are used by equipping the press with explosion proof motors and controls. The ATF-Economette weighs about 6000 lbs. and is approx. 7 ft. wide by 8½ ft. high by 10 ft. long. For further information, please mention PEE No. 169 in your request.



The Monomelt Hydraulic

HEAVY-DUTY ROTARY SHAVER

●A hydraulic heavy-duty unit for high production shaving of electros, stereos, metal base, plastic and wood. Variable speed hydraulic drive . . . full page capacity to 17½"x22½". Rugged, one piece cast iron base . . . ten tooth, tool steel, rotary cutter head with Timken bearings . . . smooth feed . . . shaves accurately from .140" to 1.000" . . . fast return . . . easy reading barrel type micrometer adjustable to .001" . . . positive locking action . . . hand finished, oversize travel ways . . . 17 finger front hold down assembly . . . front and rear safety bar . . . chip deflector prevents cutter clogging . . . mechanical waste dump. This unit is easily maintained . . . easily adjusted . . . easily lubricated. Sensibly priced. Write.

THE Monomelt COMPANY, Inc.

1611 N. E. Polk • Minneapolis, Minnesota

Equipment & Supplies

(Continued from Page 24)

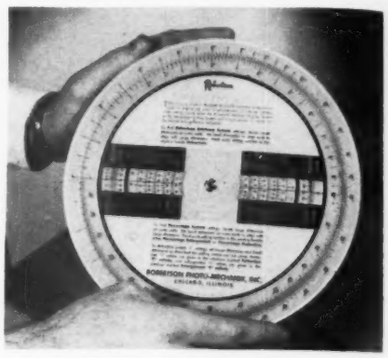
made. Other parts discuss making multiple-image plates and helpful suggestions for the platemaker. For a copy of this manual, please request PEE No. 165.

Silent Chain Booklet

Link-Belt Co. has published an 88 page booklet in two colors containing detailed engineering data on its Silent Chain Drives. Silent chain drives are used for a wide range of industrial requirements including printing presses. Pre-engineered stock drives for normal applications are listed in one section of the booklet. In another section is outlined the procedure for selecting completely engineered drives. Included is an indexed table of service factors, rating tables, and chain length and center distance computations. Another part of the booklet is devoted to drive components; included are a list of available chain widths; chain and wheel dimensions; wheel tolerances, materials, and other data. In the section on accessories, casings and tensioners are covered. Installation, maintenance and lubrication procedures are described in the final section. Interested readers should mention PEE No. 134 in their request for a copy.

Percent-eze Calculator

The Robertson Percent-eze calculator functions for all types of proportioning work. In addition to the standard calibrations for proportioning artwork, copy,

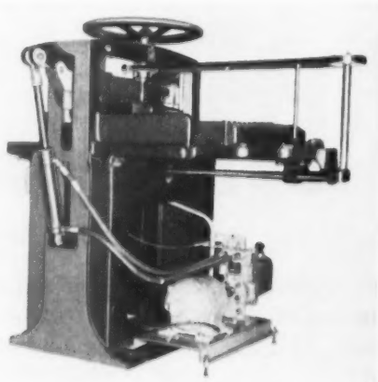


etc., the Percent-eze is provided with calculations for focusing copy cameras, regardless of scaling system used. Correct "f" values are also given for enlargements or reductions using any scaling systems. The "f" values are given in a range from f22 through f128. The instrument is 9 in. diam. It is made from fully laminated heavy Vinylite plastic. All calibrations are shown in large numerals. Instructions are printed on the face of the instrument. The Percent-eze is supplied with leatherette case. In requesting further information, please request PEE No. 161.

Sponge Rubber Knee Pad — A sponge rubber knee pad has been manufactured by General Scientific Equipment Co. Sponsor states the adjustable pad fits any size knee and may be used for all jobs requiring kneeling. It is also claimed the pad will not slip out of adjustment and is equipped with a non-slip waffle tread to grip slippery surfaces. Please request PEE No. 156 for further information.

Hydraulic or Hand Lever Paper Cutter

The Viceroy 26½ in. paper cutter is available in both hydraulic and hand lever models, according to Turner Printing Machinery, Inc. Weighing 1370 lbs., the Viceroy cutter features an illuminated overhead tape gauge, split finger back gauge and Alemite fittings for cutter



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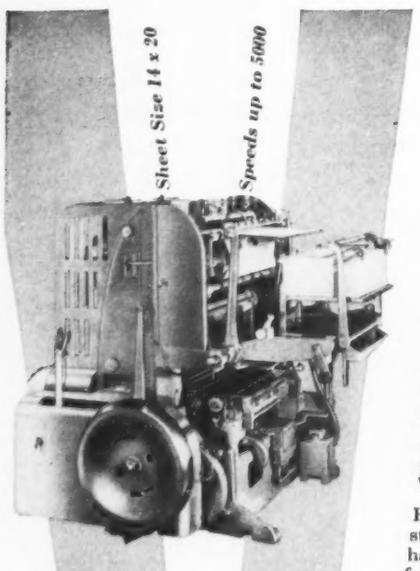


small jobs- large profits with the Miehle Vertical

What is a small job? It's a job where the run is short or the form is small or the requirements lower or the wants are varied. Where do the small jobs come from? They come from small businesses (and sometimes from larger ones, too)—from the tailor across the street, from the shop around the corner, from the factory down the block. How can they be produced at a profit? With the Miehle V-50 Vertical, of course!

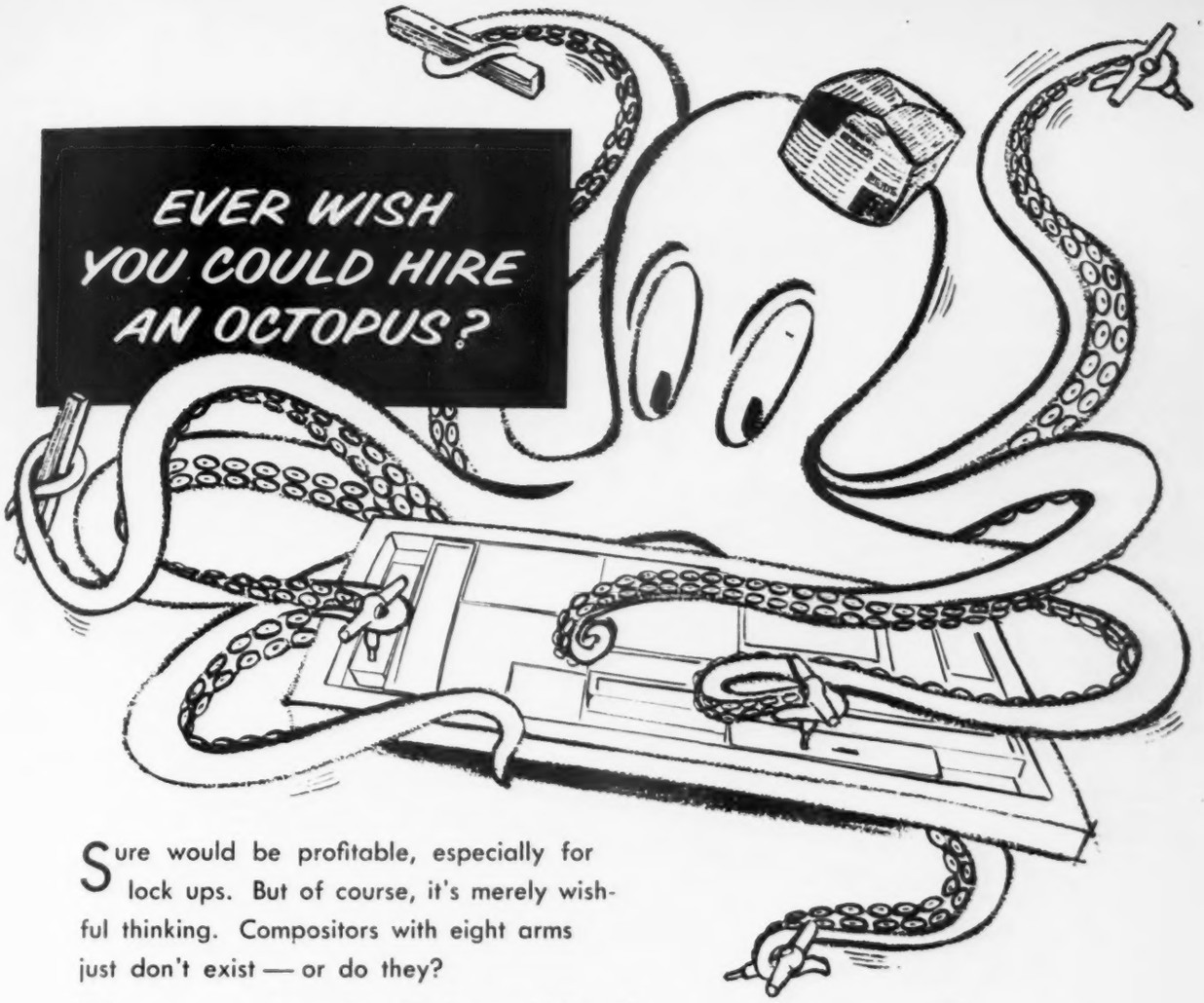
From coupons and labels, forms and stationery, blotters and novelties, handbills and broadsides—on up to fine folders, brochures and catalogs, the Miehle Vertical will turn them out better, faster, at lower cost and higher profit than any other job press. Why? Because its simplicity of operation, its quick changeover and makeready, its speed makes the Vertical a natural for small jobs. The Miehle V-50 Vertical will always be the busiest press in the plant.

The Miehle

Vertical

MIEHLE PRINTING PRESS & MANUFACTURING CO.

CHICAGO 8, ILLINOIS



Sure would be profitable, especially for lock ups. But of course, it's merely wishful thinking. Compositors with eight arms just don't exist — or do they?

Take a compositor using Challenge Hi-Speed Quoins. He doesn't have eight arms — but he couldn't lock up those forms any faster were he so equipped. *The Hi-Speed Quoins are his extra arms* . . . each a self-contained unit with a series of quoins operating under one key! Expansion is direct, uniform and powerful — without reglets, without workups!

So the next time you get to daydreaming about increasing the efficiency of your pressroom — be realistic. Don't wish for an octopus. Get Challenge Hi-Speed Quoins — and get results!

758

CHALLENGE® HI-SPEED QUOINS

Made in seven sizes. Write for full details.

THE CHALLENGE MACHINERY CO.
Office, Factories and Show Room:
GRAND HAVEN, MICHIGAN
DEALERS IN ALL PRINCIPAL CITIES
Challenge Owns The Printing Equipment Manufacturing Rights of *Morgans & Wilcox Manufacturing Co.*

Mac—
The Milwaukee Journal has 27 Morrison saws and the machinist spends only 2½ hours a week sharpening blades. No chargeable time or outside expense for sharpening. — Al

The partial view of the Milwaukee Journal's Composing Room shows another practical arrangement of a saw for each two make-up tables. The Journal has 27 Morrison Saw Trimmers and 2 Morrison Slug Strippers.

MORRISON 3-A SAW TRIMMER

Morrison 3-A Saw Trimmer features the patented Universal Blade and Sharpening attachment that effects savings so great that it will eventually pay for the equipment. Write for facts and details of this and the many other outstanding advantages obtained with Morrison Saw Trimmers.

Other Morrison Equipment includes: Slug Strippers, Plate Bevelers, Router and Type High Planer, Strip Material Cabinets, Waste Receptacles, Universal Saw Blades, Router Bits, and Jigsaw Blades.

Symbol of Operating Economy

THE MORRISON COMPANY

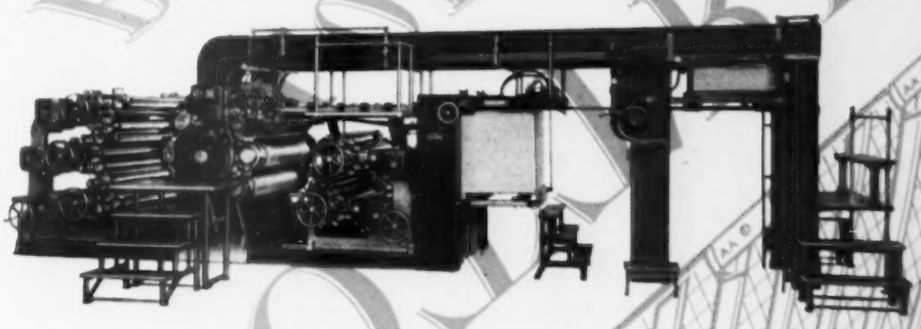
THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. MELVINA STREET • MILWAUKEE 12, WIS.

Follow Your Impulse...

Look into Rotary Letterpress!



NEW COTTRELL 36" x 46" C.F. 5-COLOR ROTARY LETTERPRESS

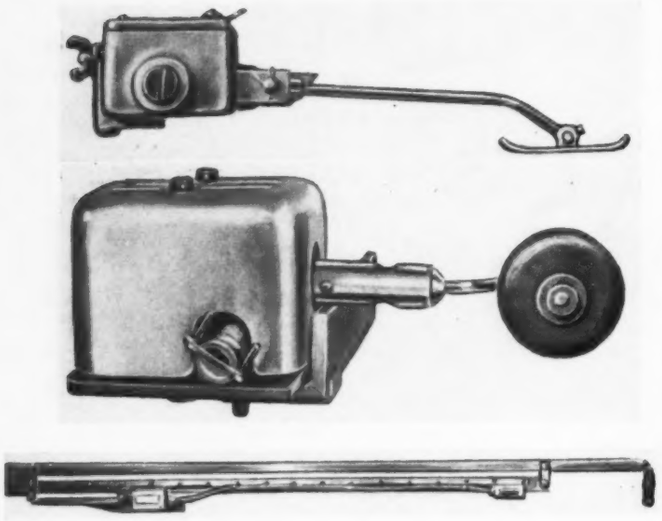
C. B. COTTRELL & SONS COMPANY
Westerly, Rhode Island

Claybourn Division,
Milwaukee, Wis.

Sales Offices:
New York, Chicago, London

Cooksey System of WEB CONTROL

EQUIPMENT DESIGNED TO ACTUALLY PROTECT YOUR PRESS WHEN A WEB BREAKS...INSTEAD OF MERELY STOPPING IT



WEB BREAK DETECTOR

- Precise and quick acting to stop press instantly at the time of a web break.
- Has running position, threading position and two lockout positions.
- Press cannot be operated at high speed unless shoes are in operating position.
- Can be mounted in any and all positions in press.
- Shoe pressure and range of operation can be easily adjusted for any web condition.

TROLLEY

- The most outstanding advancement made in web break detector systems in recent years. It prevents the web, after the impression, from lashing back and wrapping around the printing cylinders.
- The Cooksey System is the only system that provides this feature therefore it is the only system that can actually prevent damaging wrap-ups due to web breaks.

WEB SEVERING DEVICE

- It is compact, and the action is positive and instantaneous.
- Cuts completely across the whole sheet.
- Clean cut web comes out of printing unit at time of a web break instead of ragged tails or loose pieces that may cause additional delay.

SALES AGENTS:
THE GOSS PRINTING PRESS CO., CHICAGO
R. HOE & CO., NEW YORK
WOOD NEWSPAPER MACHINERY CO., NEW YORK

For Information Write To
KORTHE ENGINEERING CO.
9353 SEYMOUR AVENUE
SCHILLER PARK, ILLINOIS

Equipment & Supplies

(Continued from Page 26)

lubrication. The hand clamp power cutter model (shown here) is powered by the Super Speed Hydro Pack automatic hydraulic unit which features a two handed safety device and non-repeat mechanism. Your request for further details should refer to PEE No. 133.

Electric Fork Truck For Operation in Restricted Space

An electric fork truck which may be operated in as narrow as 7 ft. aisles while picking up and depositing loads has been developed by Yale & Towne Mfg. Co. The truck, called the Warehouse Extend-A-Load, is of 2000 lb. capacity at 24 in. load center. Sponsor states the truck can be operated in short radius turns, and can also be made to reach out and pick up or deposit a load at any height from floor level to 126 in.

With fork spread adjustable from 12 in. to 26½ in., the truck is equipped for handling pallets and skids of various sizes and types. Loads are extended and retracted by a hydraulically powered pantograph (tong) device which is actuated by two double acting cylinders operated by pushbutton control.

Controls used to hoist, lower, control direction of travel and accelerate the truck are grouped for one hand operation, leaving the other hand for steering. The truck is also equipped with a deadman control which automatically cuts off power and applies the brake when the operator leaves the truck for any reason.

A tilt feature provides for an automatic backward tilt of 2¼ deg. for stability of load in transport. Other details may be secured by mentioning PEE No. 136.

Haloid Tone Tray — Development of Tone Tray, equipment for preparing paper masters of subjects containing halftones and line copy by Xerography for run-off of multiple copies on offset duplicators, has been announced by The Haloid Co. Sponsor states that Tone Tray, used with XeroX Lith-Master copying equipment, facilitates reproduction of copies. Features of the equipment are the camera, processor and fuser. According

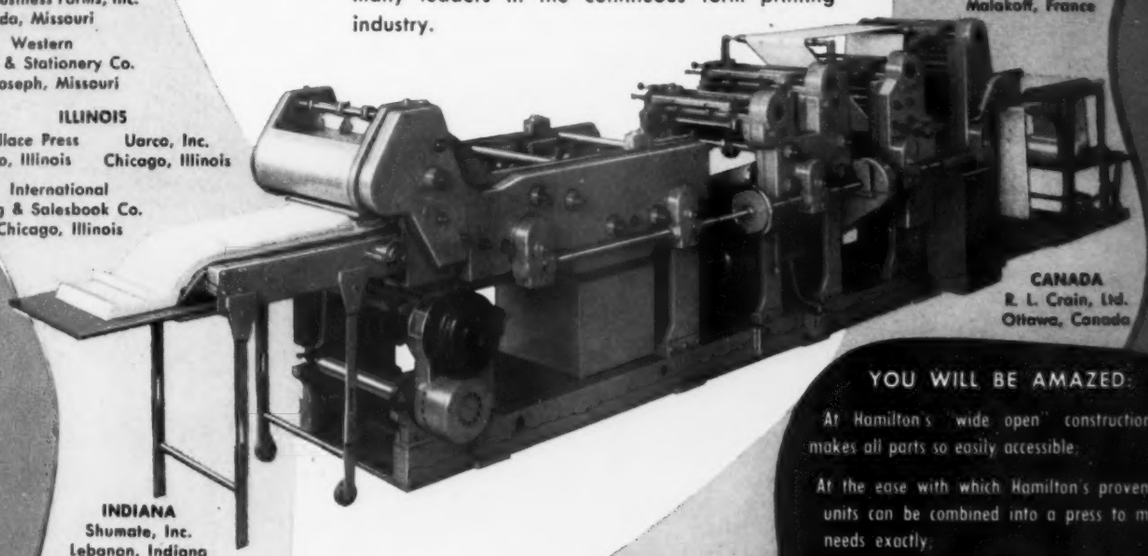
(Continued on Page 36)

Warehouse Extend-A-Load Truck, with forks elevated and extended, deposits a pallet load. Note how the outriggers are clear of loads in the bottom rack. The truck is manufactured by Yale & Towne Mfg. Co.

HAMILTON 22" x 22" one color offset press with reversible rubber printing and face imprinting, face numbering, two punching machines, two cross perforators and length slitting and length perforating. Press also incorporates roll rewinding and zig-zag fold delivery. Zig-zag fold delivery shown.

HAMILTON WEB PRESSES
CHOICE OF PRINTERS EVERYWHERE!

The sound judgment which you exercise when you select a Hamilton Web Press is endorsed by many leaders in the continuous form printing industry.



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"Art-N-Sets," Inc.
Little Rock, Arkansas

GEORGIA
Ivan Allen Company
Atlanta, Georgia

Retail Credit Corporation
Atlanta, Georgia

Montag Brothers, Inc.
Atlanta, Georgia

PENNSYLVANIA
The Reyburn Mfg. Co., Inc.
Philadelphia, Pennsylvania

The Standard Register Co.
(Atlantic Division)
York, Pennsylvania

Stephen Greene Company
Philadelphia, Pennsylvania

NEW JERSEY
Merck & Company, Inc.
Rahway, New Jersey

National Systems & Forms Company, Inc.
East Rutherford, New Jersey

MASSACHUSETTS
Philip Hano Company, Inc.
Holyoke, Massachusetts

MARYLAND
The Baltimore Salesbook Co.
Baltimore, Maryland

LOUISIANA
Thos. J. Moran's Sons, Inc.
New Orleans, Louisiana

MICHIGAN
Rotary Forms Press, Inc.
Detroit, Michigan

TEXAS
Ennis Tag & Salesbook Co.
Ennis, Texas

The Rein Company
Houston, Texas

NEW YORK
G. A. Ackermann Printing Co.
New York, New York

Elliott Ticket Company, Inc.
New York, New York

James F. Newcomb Co., Inc.
New York, New York

Vue-Fax Corporation
New Cassel, Westbury, N. Y.

Wilcox Press, Inc.
Ithaca, New York

SWEDEN
Aktiebolaget Fredr. Wagner
Malmo, Sweden

FRANCE
Perine-Guyot & Cie
Malakoff, France

CANADA
R. L. Crain, Ltd.
Ottawa, Canada

FLORIDA
The M. G. Lewis Printing Co.
Jacksonville, Florida

CALIFORNIA
H. S. Crocker Company, Inc.
Los Angeles, California

Sunset-McKee Company
Oakland, California

ALABAMA
International Paper Company
Mobile, Alabama

NORTH CAROLINA
Standard Business Forms, Inc.
Gastonia, North Carolina

MISSOURI
American Business Forms, Inc.
Nevada, Missouri

Western
Tablet & Stationery Co.
St. Joseph, Missouri

ILLINOIS
The Wallace Press
Chicago, Illinois

Uarco, Inc.
Chicago, Illinois

International
Tag & Salesbook Co.
Chicago, Illinois

INDIANA
Shumate, Inc.
Lebanon, Indiana

OHIO
The Egry Register Company
Dayton, Ohio

The W. S. Gilkey Printing Co.
Cleveland, Ohio

The Standard Register Co.
Dayton, Ohio

The National Cash Register Company
Dayton, Ohio and
Washington Courthouse, Ohio

The Stearns & Foster Co.
Cincinnati (Lockland), Ohio

The Hamilton Autographic Register
Hamilton, Ohio

Premier
Southern Ticket Co., Inc.
Cincinnati, Ohio

The Shelby Salesbook Co.
Shelby, Ohio

The Rotary Printing Company
Norwalk, Ohio

The Miami Systems Corp.
Cincinnati, Ohio

The Reynolds & Reynolds Co.
Dayton, Ohio

YOU WILL BE AMAZED:

At Hamilton's "wide open" construction which makes all parts so easily accessible.

At the ease with which Hamilton's proven standard units can be combined into a press to meet your needs exactly.

At Hamilton's "fast start" on important jobs because of no make ready.

At the increased production achieved when all operations are performed in a single press run.

At the high speed and extra precision of the Hamilton Press, which assures you that your form printing business will be profitable.

The press you buy will be a vital part of your operation for many years to come. Make your competitive position secure by investing in a Hamilton Web Press.

BUSINESS FORM MACHINERY — PRECISION

Send for Hamilton Web Press Bulletin No. 5337 or submit your specifications for proposal NOW!

The **HAMILTON** TOOL COMPANY

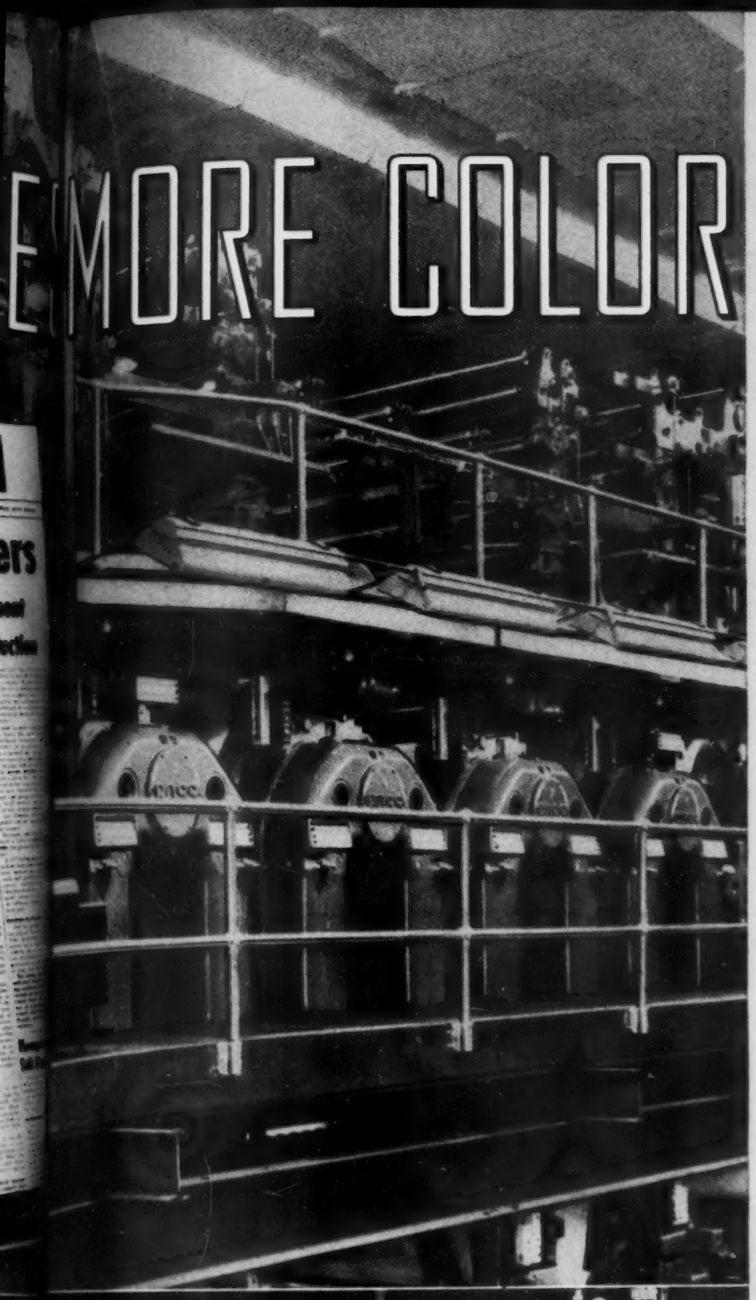
910 HANOVER ST., HAMILTON, OHIO

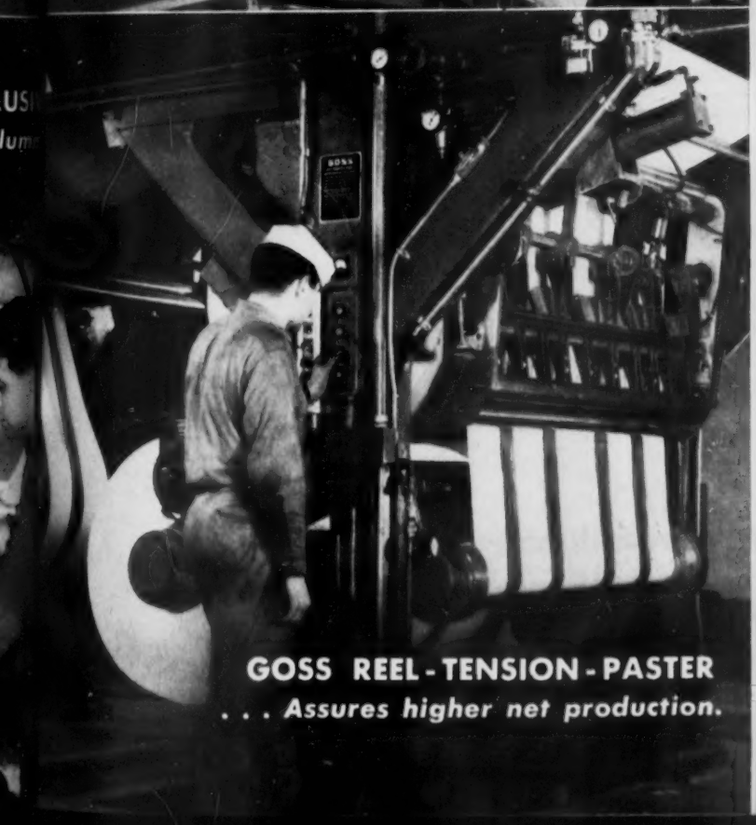
GOSS HEADLINER® GIVE M

SPECIAL EDITION
THE GOSS PRESS
EXTRA PROFITS
Atlantic City Welcomes Press Leaders
Headliner Prints 4 Different Colors on Same Cylinder
Tension Lockup Increases Blanket, Form Roller Life
Wide-Tooth Gears Give Extra Power
Efficient, Dependable Production Is Assured from Uniflow Folder
Mechanical Aces Act to Cut Waste
Low Maintenance Marks Operations
Color Linage Zooms with Goss Presses
Colortrol Provides Quick, Accurate Ink Adjustment
Modern Equipment Steps Up Production
Full Stereo Line Offered by Goss
WELCOME

TENSION PLATE LOCKUP
. . . "greatest press development in 50 years."

COLORTROL . . . ANOTHER GOSS EXCLUSI
. . . For exact adjustment of ink in every colum





GOSS REEL-TENSION-PASTER
. . . Assures higher net production.

MORE COLOR FLEXIBILITY

Why the Headliner® Is the Nation's No. 1 Press

TENSION PLATE LOCKUP IMPROVES QUALITY AND BRINGS ECONOMIES

This patented feature grips plates securely to cylinders under uniform tension, eliminating bowing or buckling, and preventing lifting on either side of the impression contact line.

Records from every part of the country prove that Tension Plate Lockup steps up production, lengthens plate life, saves blankets, reduces form roller wear . . . assures better register, gives sharp reproduction, keeps open areas clean . . . reduces web breaks, provides quieter operation by eliminating plate slap, and increases safety.

COLORTROL, SPECIAL CYLINDERS PRODUCE QUALITY, OFFER WIDE RANGE OF COLOR

Fingertip Colortrol allows pre-setting of ink, and adjusts the flow of ink to every column. It also provides page cut-off. Colortrol panels are conveniently located waist-high, eliminating climbing and kneeling. Shoulder-high panels for color cylinders similarly contribute to ease of operation.

Multiple types of color arrangements—Half-Decks, Single Color Cylinders, Double Half-Decks and Four-Color Decks—allow color to be printed on any page.

Portable Color Fountains—single-width or double-width—may be used on any black printing couple.

Goss color fountains, having four compartments, permit the printing of four different colors on the same cylinder—with a minimum of only a pound and a half of ink.

Continuous Ink Feed System provides an even flow of ink at all press speeds.

SIMPLE, SURE, AUTOMATIC . . . GOSS REEL-TENSION-PASTER

Production charts attest the outstanding performance of the Goss Paster at sustained high speeds.

The entire operation of this improved automatic web splicer is marked by utmost simplicity—just three push buttons (position, pre-drive, paste).

Constant tension is maintained during the entire pasting cycle by the Goss Pneumatic Tension System. The super-sensitive controls reduce web breaks by as much as 75 percent.

EXTRA HEAVY DUTY FOLDER DELIVERS FOLDED-EDGE FORWARD

Rugged mechanisms are mounted in Timken roller and ball bearings in massive frames. Exclusive Goss features include enclosed folding motion, knife bar cantilever springs, dynamically balanced folding and cutting cylinders. Folds up to 96 pages collect.

PLUS-VALUES IN STRENGTH BUILT INTO EVERY PART

Every part of the HEADLINER® has been engineered for utmost strength, both in design and in scientific selection of materials. The two-ton plate and impression cylinders are precision-machined of heat-treated, solid, high carbon steel forgings. Dynamic balancing guarantees freedom from vibration.

Pre-loaded Timken tapered roller bearings absorb both radial and end thrust, eliminating all play. The double-row design provides greater bearing surface than other types of bearings.

Rigid impression is provided by large eccentrics mounted in the heavy press side frames, preventing cylinder jumps.

Wide-toothed helical gears (with multiple overlapping teeth) transmit maximum power with minimum loss, in a rolling, steady, positive action. Goss gears are machined from extremely high tensile strength alloys having exceptional wearing properties.

THE GOSS PRINTING PRESS COMPANY

5601 West 31st Street, Chicago 50, Illinois

220 East 42nd Street, New York 17, New York

55 New Montgomery Street, San Francisco 5, California

London & Preston, England

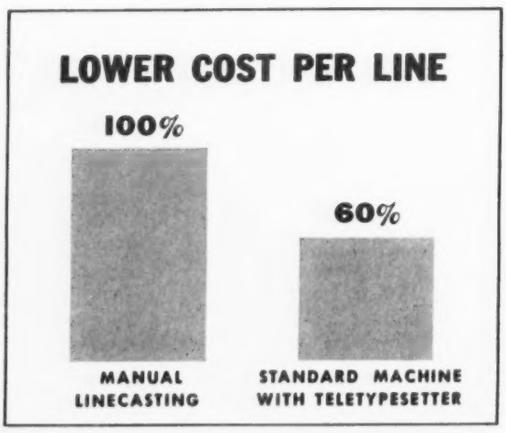
World's largest manufacturer of newspaper, magazine and rotogravure presses

Reading time: 43 seconds
Subject: **Money** *(yours)*

We're keeping this short because we know how important time is to you, especially in your composing room. And that's what we want to talk about.

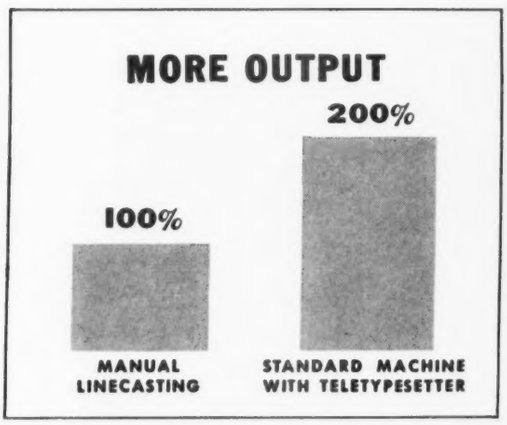
TELETYPESETTER equipment offers you a method for cutting in half the time it takes to cast type manually. Or, to put it another way, a TELETYPESETTER system will eliminate the peaks and valleys of stop-and-go manual operation by producing *automatically* a continuous flow of type with a cadence and speed impossible to match by manual operation.

In dollars and cents, this adds up to a 40% reduction in composing costs on standard machines.



The mechanics of a TELETYPESETTER system are very simple. Tape is punched at high speed on a Perforator with a typewriter-like keyboard. As this tape feeds into the Operating Unit, the linecasting machine automatically turns out lines of type at its geared output level.

By introducing TELETYPESETTER equipment to your present composing room set up, you can double the output of standard linecasting machines and triple the output of high speed machines.



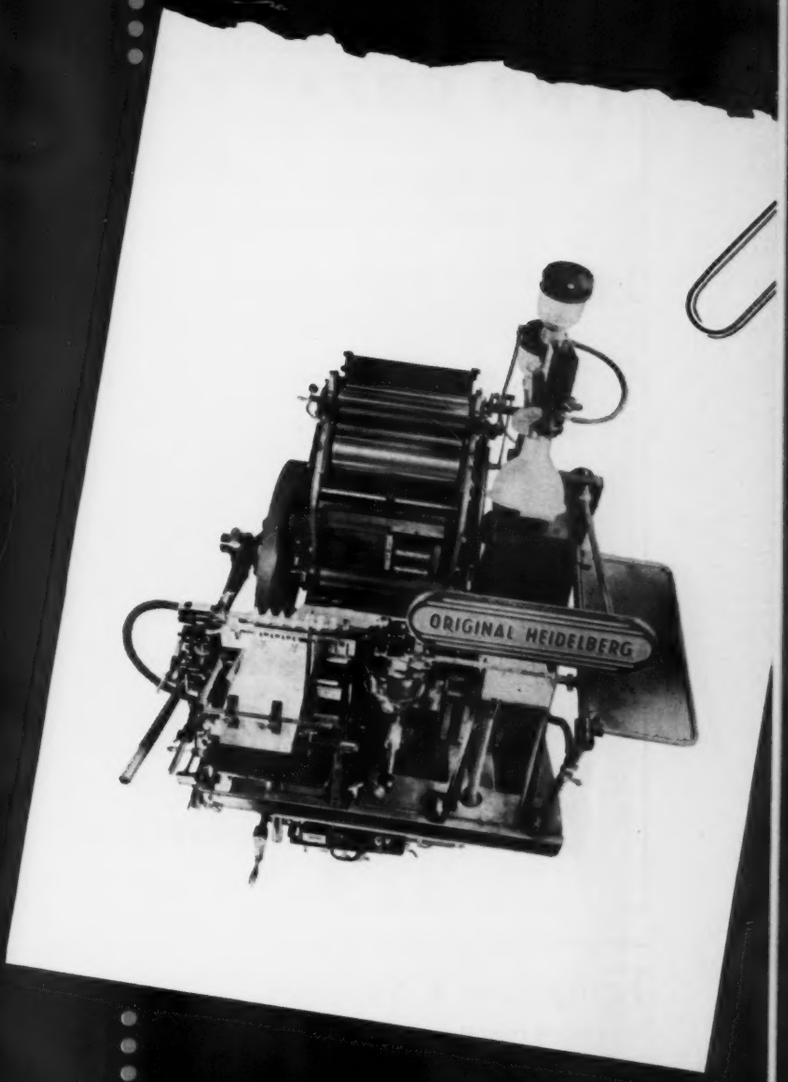
Your own situation will undoubtedly suggest other economies. Over 1,200 publishers have found TELETYPESETTER equipment to be a remarkable money-saver. Among them are weeklies, two of which have less than 850 circulation.

This is only part of our story. But our 43 seconds are up. For full information, write to Teletypesetter Corporation, Dept. PE-6, 2752 North Clybourn Avenue, Chicago 14, Illinois.

THE PERFORATOR

TELETYPESETTER

NOW 33 "FUTURE FEATURES"



ORIGINAL HEIDELBERG

THE BEST THING NEXT TO A PRINTER

Want MORE production time?

Want MORE jobs per day?

Want MORE net profit on each job?

*in 1950 ORIGINAL HEIDELBERG gave you 20 great "FUTURE FEATURES" . . 20

*now ORIGINAL HEIDELBERG adds 13 more all new "FUTURE FEATURES" 13

*see how 33 "FUTURE FEATURES" can increase your profits 33

Write to arrange a FREE HEIDELBERG DEMONSTRATION right at your door

HEIDELBERG DISTRIBUTORS

HEIDELBERG SOUTHERN SALES CO.
120 N. Sampson St.
Houston 3, Texas

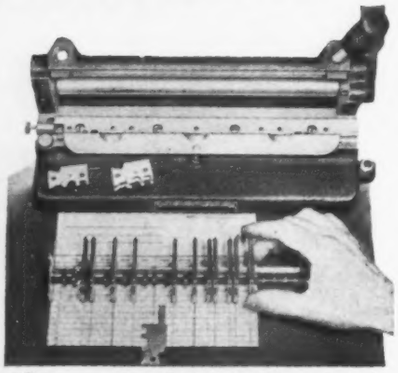
HEIDELBERG WESTERN SALES CO.
118 E. 12th St.
Los Angeles 15, Calif.

HEIDELBERG EASTERN INC.
45-45 Thirty-Ninth St.
Long Island City 4, N.Y.

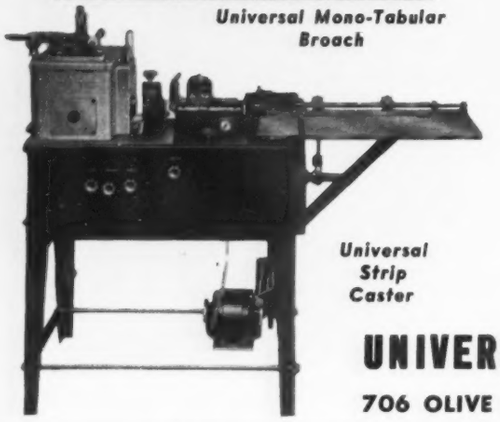
HEIDELBERG SALES & SERVICE:

Columbus 15, Ohio; Chicago 7, Ill.; Atlanta, Ga.; Kansas City 6, Mo.; Minneapolis 15, Minn.; Denver 2, Colo.; Salt Lake City, Utah; San Francisco 3, Calif.; Seattle, Wash.; Portland, Ore.

TWO GREAT COMPANION MACHINES!



Universal Mono-Tabular Broach



Universal Strip Caster

Dennis PRINTERS & STATIONERS

207 NORTH MAIN ST., SANTA ANA, CALIFORNIA Kimberly 2-4401

July 5, 1950

Mr. E. W. Duff, Office Manager
Universal Monotabular Corporation
706 Olive Street
Dallas, Texas

Dear Mr. Duff:

We wish to advise you of our complete satisfaction in regards to the operation of the Universal Strip Caster which was installed in our plant about a year and a half ago. Ours is a very busy plant and the Universal has really filled the need of having plenty of slugs, leads and rule available in large quantities.

We think that the Universal Strip Caster is a great machine and we heartily endorse it. We like the way that the Universal Mon-Tabular Corporation stands back of their products.

We have had a Honig Multiple Broach in our plant now for nearly three years. We have hundreds of standing broached forms. We can not speak too highly of this method of rule form. In connection with our letterpress we have one of the best equipped offset plants in Southern California. We letterpress two forms to one we offset in ruled forms. This is due to the fact that most ruled forms are numbered and perforated. We can do all this in one operation by letterpress and the Honig Multiple Broach. It would take a very large amount of money to buy this broach from us if we could not replace it.

The Universal Strip Caster and the Honig Multiple Broach very definitely fits into the operation of our plant. They not only keep our printers happy because of the abundance of spacing material and rule plus the fact that they can make one form take the place of two, but the pressmen are pleased with the forms they get to print. That is the reason we have one of the top producing printing plants in Southern California.

Very truly yours,

Ray W Simpson

Ray W. Simpson, Mechanical Supt.

UNIVERSAL MONO-TABULAR CORPORATION

706 OLIVE STREET DALLAS 1, TEXAS

Equipment & Supplies

(Continued from Page 30)

to John B. Hartnett, Vice Pres. in Charge of Sales and Advertising for the company, the equipment is currently available. Please state PEE No. 160 when writing for additional information.

Gravure Equipment Catalog

Rotogravure equipment for plating, grinding, processing and printing operations is illustrated and described in a 70 page catalog prepared by Standard Process Corp. Included in the listings are the company's five color rotogravure press, large and small grinding and polishing machines, grinding and polishing stones, gravure cylinders, copper and chrome plating tanks, rectifiers and control boards for presses, etc. Specifications of the machines are also given. The 8½ in. by 11 in. catalog is plastic bound. Please mention PEE No. 159 if you desire a copy.

Wire Inserting and Coiling Machine—An automatic coil wire bookbinding machine has been developed by Tauber Plastics, Inc., for use by manufacturers of blank books, school and office memo books, bookbinders, etc. Sponsor states the machine requires one operator who places punched books in the machine. By pressure of a foot lever the wire is coiled from a spool, inserted into the book, cut to size, and bent at the ends. It also is supplied with a mechanism for releasing the books into a delivery chute. The machine reportedly will accommodate books up to 13 in. Adjusting the machine to different book thicknesses is possible. If additional information is desired, please request PEE No. 141.

Reditype for Offset Display Composition

For display type purposes in offset platemaking, Davidson Corporation supplies kits of letter characters and complementary equipment. Fonts of the letter characters are furnished on plastic base cut ready for use. For producing disposable negatives Reditext No. 1 fonts are supplied. Reditext No. 2 is designed for use in producing direct positives. For letter composition use, a transparent acetate sheet is clamped on a wood composing board. This transparent sheet is treated on one side with a pressure sensitive adhesive. Furnished with the equipment are T square and triangles with which letter alignment and line position may be secured. Successively, the letters are placed on the board. If necessary, a bodkin may be used to lift a letter which may not have been placed in proper position.

The Reditype letters are furnished in two sizes in compact compartmented cases to separate the letters as follows: (1) For Reditype of 36 pt. to 72 pt. and (2) For Reditype of 96 pt. to 144 pt. A cabinet holding 12 type cases can be secured.

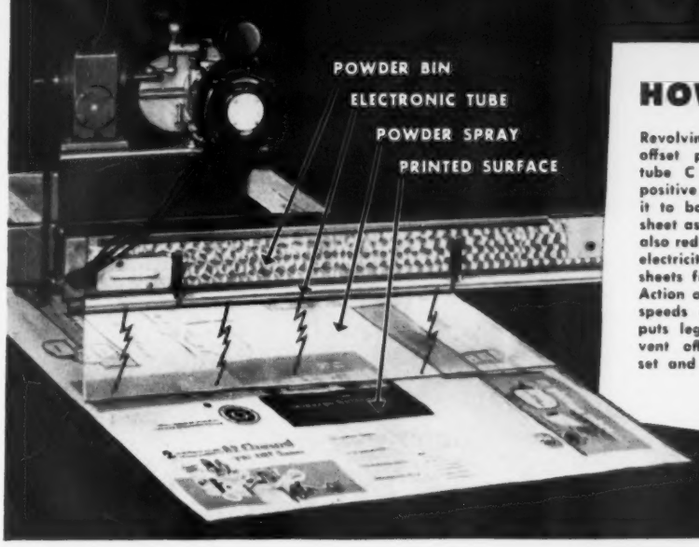
After composition has been OKd, the acetate sheet bearing the letters is placed in a special Colight printing frame next to the sensitized sheet upon which the printing down is to be done. The glass cover is closed and vacuum pressure is applied and the light is turned on.

The exposed paper is then developed, fixed and rinsed in suitable tanks to bring out the type image.

(Continued on Page 42)

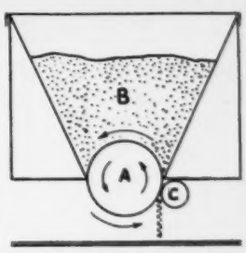
OXY-DRY

THE MOST EFFICIENT OFFSET PREVENTION METHOD



HOW OXY-DRY OPERATES

Revolving shaft A distributes anti-offset powder B past electronic tube C which gives 10,000 volt positive charge to powder causing it to bond instantly across entire sheet as it is delivered. This action also reduces negative charge (static electricity) in paper which frees sheets from sticking and jamming. Action of ozone emitted from tube speeds oxidation of ink, powder puts legs between sheets to prevent offset and permits inks to set and dry thoroughly.



Oxy-Dry Sprayer is fully protected by U. S. Patents

ONLY OXY-DRY GIVES YOU ALL THESE ADVANTAGES

- **Uniform offset prevention on all types of work**
- **Positive powder control—with new micrometer speed adjustment**
- **Elimination of static electricity from sheets permits easy flow of work**
- **Fast drying of ink and uniform, full, free flowing loads**
- **Time and labor saved from cleaner, more efficient operation**
- **No dust hazard—powder is fully-endorsed health factor**

NEW

OXY-DRY rollers are now furnished with positive powder control etched surface. Eliminates "down-time" for costly labor time sanding, permits operation of sprayer for far longer time without service of any kind except to refill with OXY-DRY powder... one of a parade of improvements you can expect only from OXY-DRY research and development.

Color is *NOW!*

- Newspapers, advertisers and advertising agencies tell us our Newspaper Color Book inks put punch into color advertising.
  Newspapers of large and small circulation using this Color Book have practically every color of the spectrum within arm's reach right in their plants.
  This availability of good strong color on a few minutes notice means satisfied advertisers as well as ink savings for the publisher.

Choose your color from the
Sinclair & Carroll Newspaper Color Book.
Build good will with good color reproduction.

Sinclair & Carroll Co., Inc.

440 W. Superior Street
Chicago 10, Illinois
Telephone SUperior 7-3481

591 Eleventh Avenue
New York 36, N. Y.
Telephone PLaza 7-2470

INTENSITY
that speeds production
EFFICIENCY
that saves money
CONTROL
that improves quality

Strong
GRAFARC
FULLY AUTOMATIC, HIGH-INTENSITY ARC LAMPS

IN PLATE MAKING DEPARTMENT
Cut exposure time in half. Assure sharper dots. Eliminate dot undercutting by crossover of reflected light rays.

IN CAMERA GALLERY
Provide uniform illumination on work of any size. Extreme steadiness of light volume—constant color temperatures. Eliminate the illumination variable in accurate control of densities. Have the power to punch through dense Kodachromes.

ON STEP AND REPEAT MACHINES
With precise control of intensity, accurate repeats become routine.

Approximately twice the light per arc watt results from the use of a silvered glass reflector, instead of a metal reflector. Automatic carbon feed system makes every job easier.

Models for all photo-mechanical reproduction processes. Adapters to fit most cameras and photo-composing machines. Present line supply wiring is usually adequate.

There's No Longer a Reason for Anyone Not Having a Motor-Driven Arc Camera Lamp

WITH THE NEW, LOW-COST

GRAFARC CHALLENGER

Fully Automatic, High-Intensity

CAMERA ARC LAMP

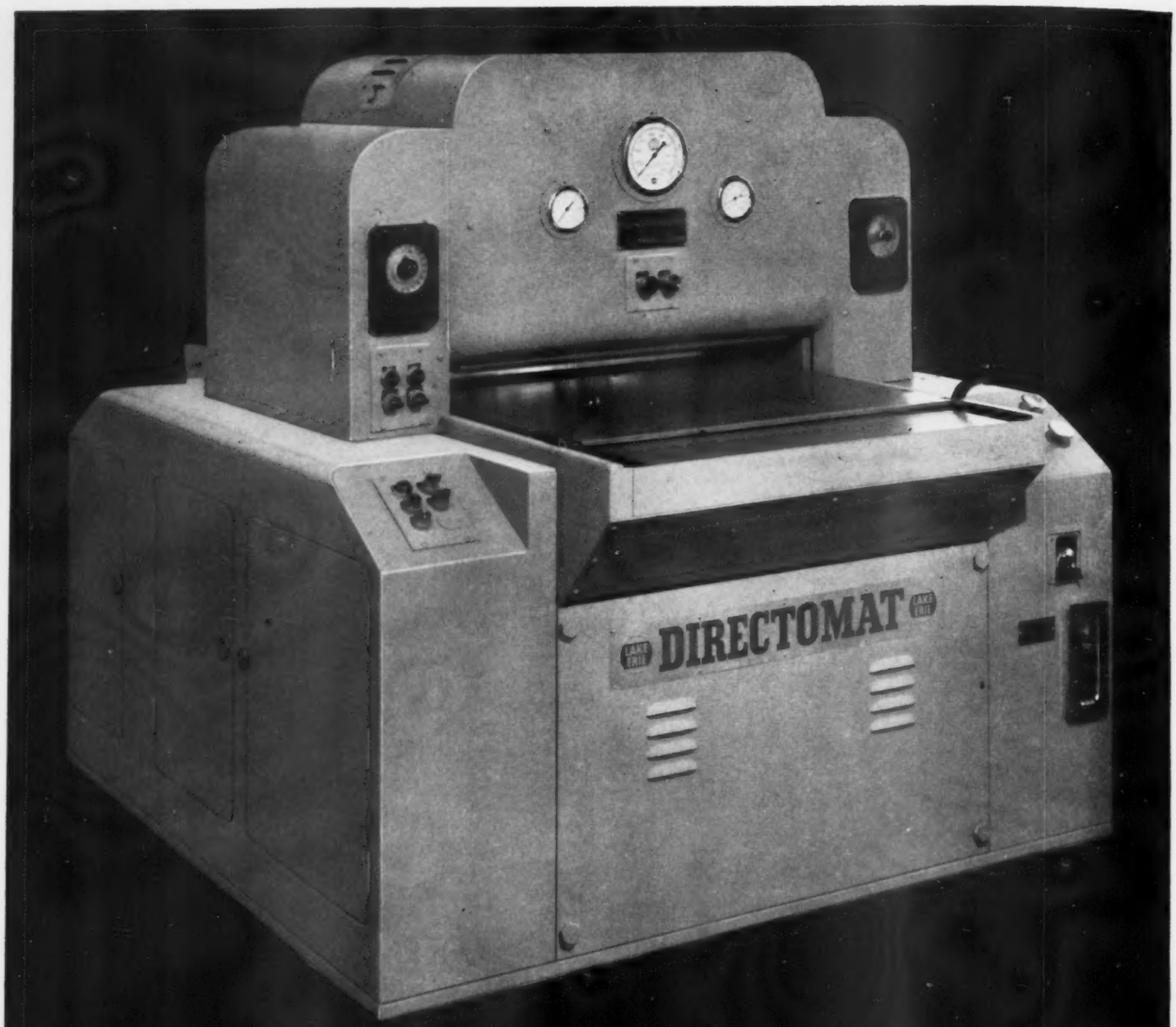
A vertical trim lamp which burns at 75 amperes and 23 volts at the arc. The arc current controls the carbon feed so that the illumination and color temperature are constant. The system makes use of an indicating meter and a dial-type, tap-changing switch. The power transformer is of the isolated secondary type, providing complete protection from shock to the operator. The Strong Grafarc time-proven method of compensation for line voltage variations has been incorporated in this amazing new lamp. Light in weight. Readily mounted on the lamp support arms of any camera.

Use Coupon NOW to Obtain Complete Literature

THE STRONG ELECTRIC CORPORATION
TOLEDO 2, OHIO
307 CITY PARK AVENUE

Please send free literature on Strong Grafarc Lamps.

NAME
FIRM
STREET
CITY & STATE
NAME OF SUPPLIER



60 Newspapers Running R. O. P. Color use Lake Erie Directomats

7 out of 10

leaders use Directomat equipment to meet their requirements for quality color mat production.

The Top 10 in R.O.P. Color Advertising
12 months — 1953

	Color Linage		Color Linage
1. Milwaukee Journal	1,618,153	6. Fort Worth Press	881,146
2. Chicago Tribune	1,142,140	7. Fort Worth Star-Telegram	821,529
3. Dallas News	955,056	8. Denver Post	784,567
4. New Orleans Times-Picayune & States	946,923	9. Dallas Times-Herald	765,300
5. Los Angeles Times	941,877	10. Houston Chronicle	733,453

SOURCE: Media Records

• **Write for** information about the equipment that is the choice of the leaders in R.O.P. Color. Ask for Bulletin 349.

LAKE ERIE ENGINEERING CORP.

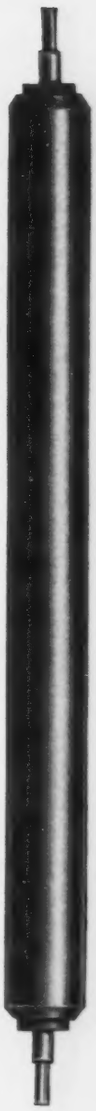
General Offices and Plant
568 Woodward Avenue, Buffalo 17, New York
District Offices in NEW YORK · CHICAGO · DETROIT · PITTSBURGH
Representatives in Other U.S. Cities and Foreign Countries

• Leading manufacturer of hydraulic presses — 3,500 designs from 5 to 22,000 tons capacity — rubber and plastic printing plate molding . . . plastics molding . . . laminating . . . die sinking . . . metal working . . . forging . . . metal extrusion . . . wallboard and plywood . . . rubber vulcanizing . . . die casting and special purpose.

LAKE ERIE ® DIRECTOMAT ®

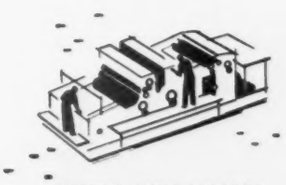
LAKE ERIE HYDRAULIC PRESSES

THE CHARACTER OF Leadership



America's first and finest printing rollers of more than a century ago were made by SAM'L BINGHAM'S SON MFG. CO. Through all the changes in printing presses and printing inks, Bingham's continuous research has maintained that leadership by producing ever finer rollers . . . composition, rubber and synthetic rubber . . . to fit every modern requirement.

The character of leadership, in any field, is identified by sustained progress, notable achievements. This is why leading printers continue to ship their rollers to Bingham's modern factories.



THESE ARE FACTS:

The heart of the press is the roller assembly. No press can be better than its rollers.

When you equip your press with better rollers you gain more profitable ink distribution.

The difference between fine rollers and ordinary rollers is not how they look to the eye, but how they perform on the press.

The secret of the best rollers is in the experience and skill of the maker.

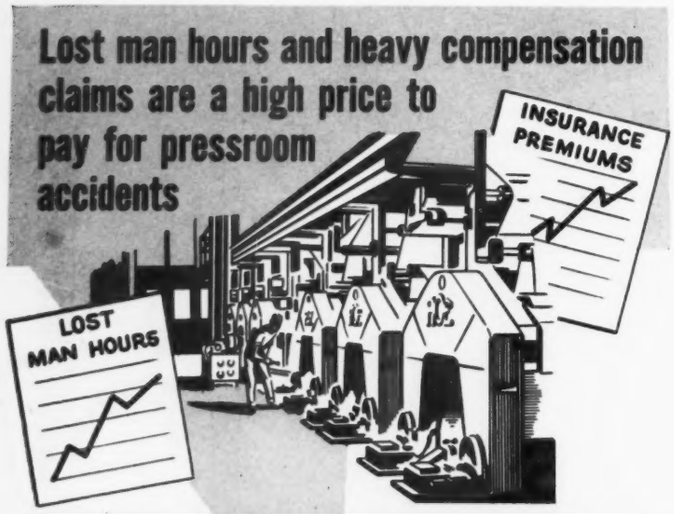
Rubber rollers re-ground quickly and accurately in each of our modern factories—

CHICAGO
Home Office

ATLANTA
CINCINNATI
CLEVELAND
DALLAS
DES MOINES
DETROIT
HOUSTON
INDIANAPOLIS
KALAMAZOO
KANSAS CITY
MILWAUKEE
MINNEAPOLIS
NASHVILLE
OKLAHOMA CITY
PITTSBURGH
ST. LOUIS
SPRINGFIELD, O.
TAMPA, FLA.

SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS

COMPOSITION . . . RUBBER . . . VULCANIZED OIL Rollers


Lost man hours and heavy compensation claims are a high price to pay for pressroom accidents
INSURANCE PREMIUMS
LOST MAN HOURS

RAISE SAFETY RECORDS...
CUT INSURANCE COSTS with

ALGRIP

ALGRIP Abrasive Rolled Steel Floor Plate installed wherever floors are slippery, ends crippling pressroom accidents at once—and chops down high insurance costs as well.

Plants nation-wide, have found that Underwriters' approved ALGRIP floor gives true foot safety—even when wet or slicked with ink mist . . . even on steep inclines.

The reason is hundreds of tiny abrasive particles impregnated *to a controlled depth of penetration* into tough, lightweight steel plate, giving each square foot of ALGRIP an abrasive "grinding-wheel" grain surface that *stays* non-slip! And ALGRIP's surface won't become smooth because hard wear only exposes new gripping particles . . . an exclusive ALGRIP feature.

Investigate ALGRIP now. You'll find it pays for itself in savings on insurance premiums. Mail this handy coupon today for full details. There's no obligation.

A.W. ALGRIP
Abrasive Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send Booklet AL-30 on cutting costs with ALGRIP.

Name_____ Title_____

Address_____

City_____ Zone_____ State_____

Equipment & Supplies

(Continued from Page 36)

The Rediflex negative may be stripped into a masking sheet for printing down on the plate.

For further information, please mention PEE No. 158 in your request.

Truck Casters — Bassick platemounted casters are now available with wheels having replaceable soft, vulcanized rubber tread tires, according to an announcement by The Bassick Co. Features of the wheels include ball bearings, case-hardened bearing surfaces and bolted steel disc construction. In requesting further information, please specify PEE No. 119.

NEWS ITEMS

CARLSON

Chesley F. Carlson Co. Formed — The Chesley F. Carlson Co. has been formed to manufacture and distribute stereotype and composing room equipment primarily for use in the newspaper and publishing field. Offices of the company will be at 5225 Minnehaha Blvd., Edina, Minn. Carlson, widely known throughout the Graphic Arts equipment field, heads the new organization. He was formerly vice president and general manager of the Monomelt Company and prior to that a partner in Colorcraft Press, Minneapolis commercial printing firm. The Chesley F.

(Continued on Page 52)

Printing Ink At Its Best!

Complete service and top-flight technical help from 11 convenient factories.

Sole Manufacturers

ARROWHEAD BLACK and COLORS

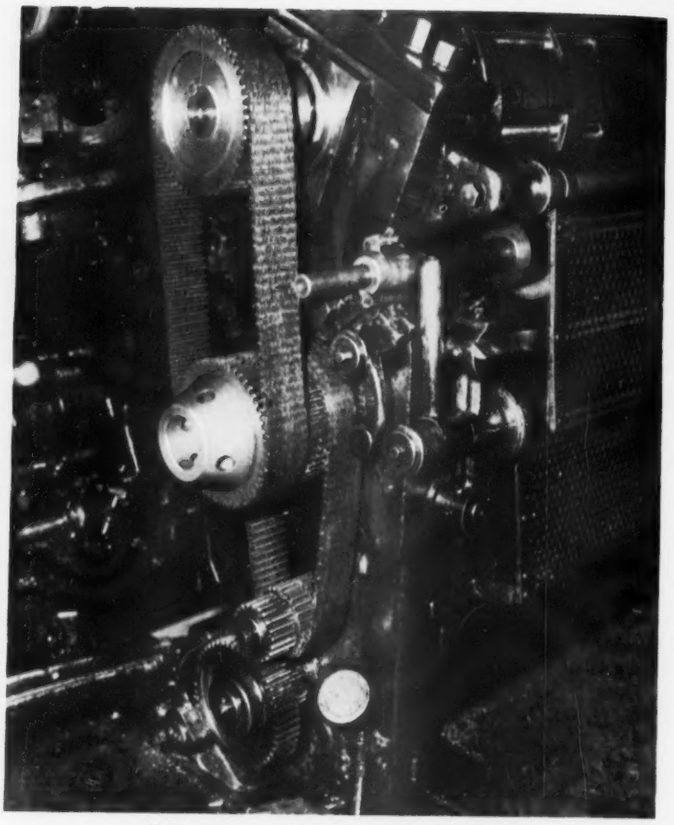
Howard Flint Ink Co.

Printing and Lithographic Inks

ATLANTA • CHICAGO • CLEVELAND • DENVER • **DETROIT** • HOUSTON
INDIANAPOLIS • LOS ANGELES • MINNEAPOLIS • NEW ORLEANS • TULSA

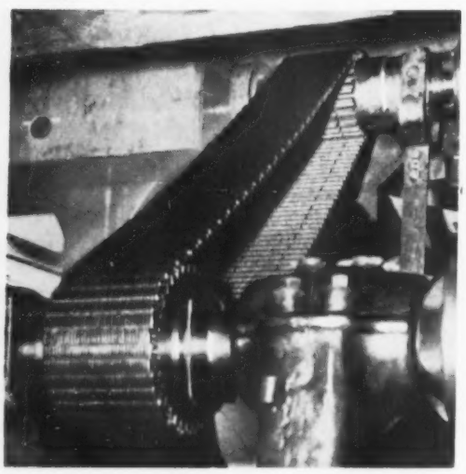
RAMSEY
SILENT CHAIN DRIVES

both above the floor and beneath it



Driving inking rolls for a leading Pittsburgh daily

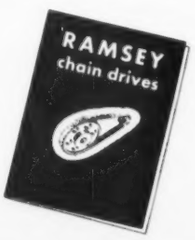
are serving America's leading newspapers



One of six Ramsey drives on the presses of a large New York City newspaper

● RAMSEY CHAIN DRIVES have what big newspaper presses need — smooth, vibrationless, quiet transmission of power, almost frictionless, and at extreme high speeds. It's all in the unique Ramsey joint action, 100 percent roller bearing contact, with no rubbing or sliding, and consequently no high temperatures even under heavy load at high speed. A further consequence is the minimum of lubrication required, with no oil pumps, slingers, or other complicated oiling devices—and, naturally, minimum wear and extremely long life.

For press designers, manufacturers and users, the book "Ramsey Chain Drives in the Printing Industry" has strong interest. Write for your copy—no obligation.

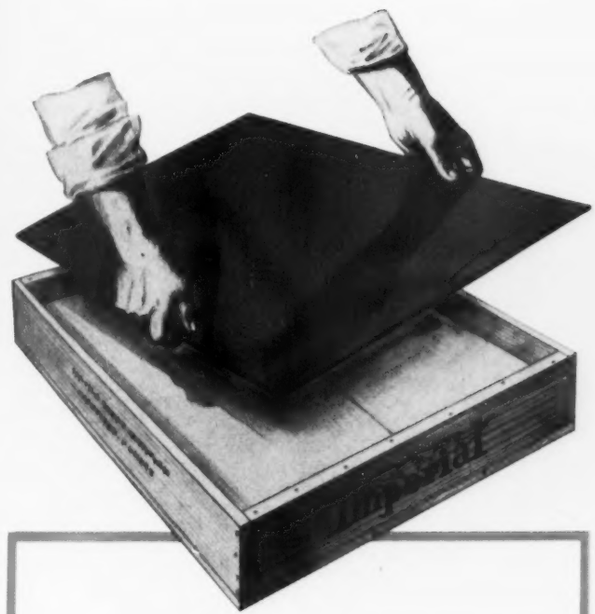


SILENT CHAIN DRIVES—FLEXIBLE COUPLINGS

RAMSEY CHAIN COMPANY, INC.

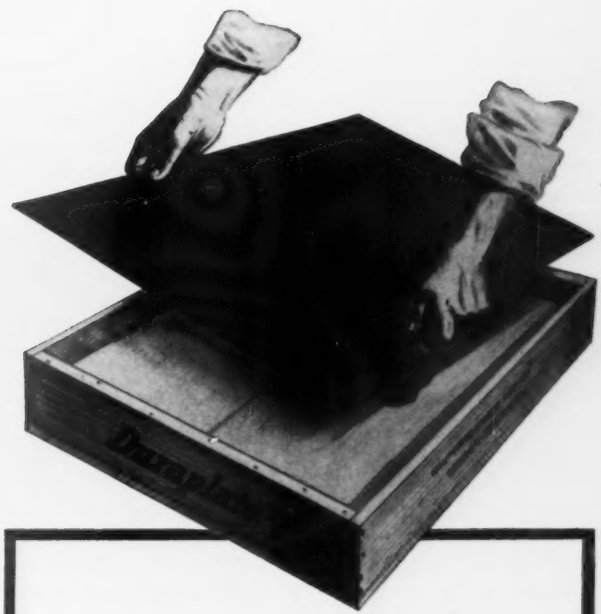
5156 BROADWAY • ALBANY, NEW YORK

TWO TOP QUALITY PHOTOENGRAVING ZINCS by Imperial



IMPERIAL REGULAR
(Blue Redibak)

Meets the requirements for all usual applications.



IMPERIAL DURAPLATE
(Orange Redibak)

Alloyed for extra tough duty. Unusually resistant to buckling.

IMPERIAL TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

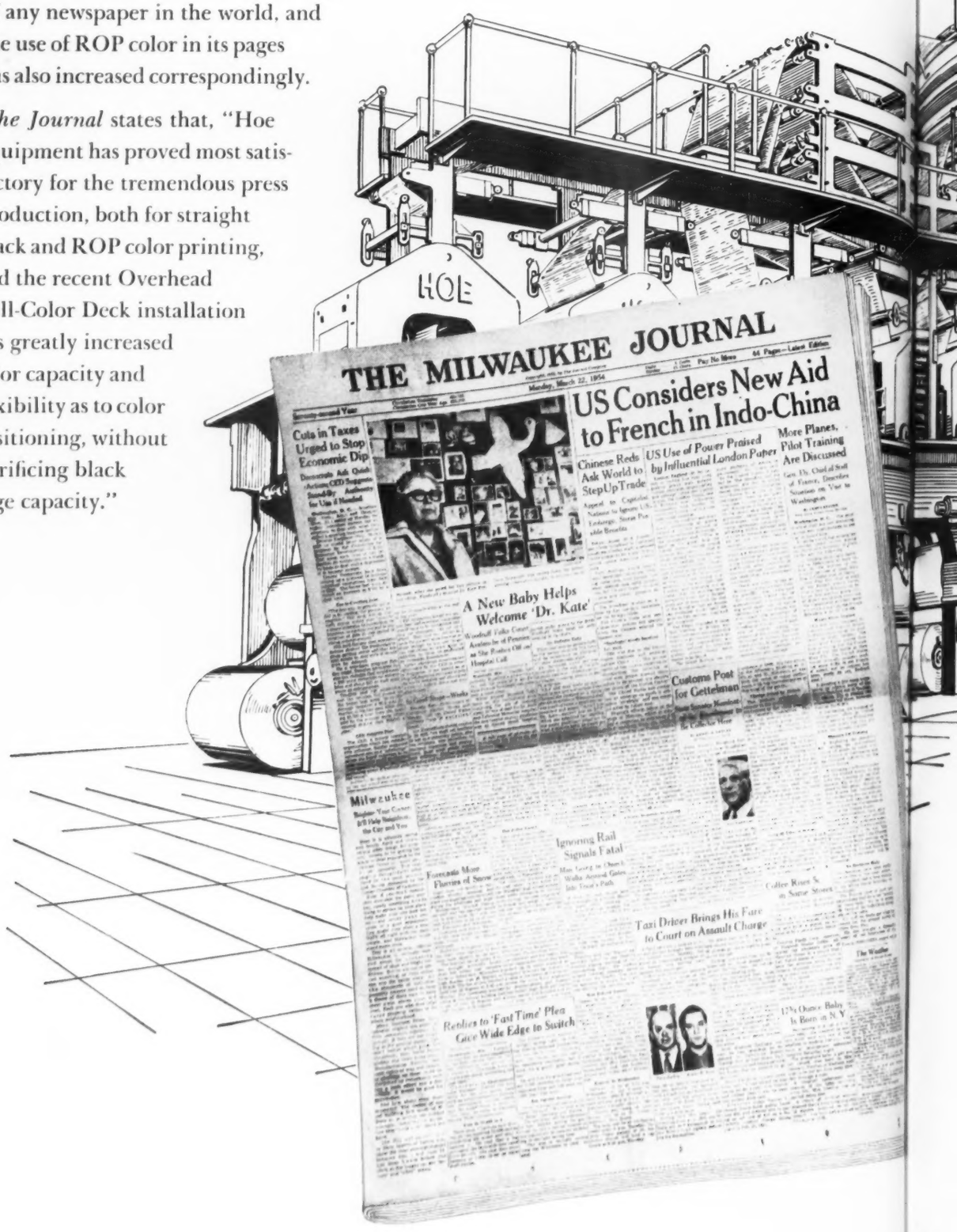
CHICAGO 50 • NEW YORK 7 • PHILADELPHIA 34

IN CANADA: LATIMER, LIMITED, TORONTO 2-B

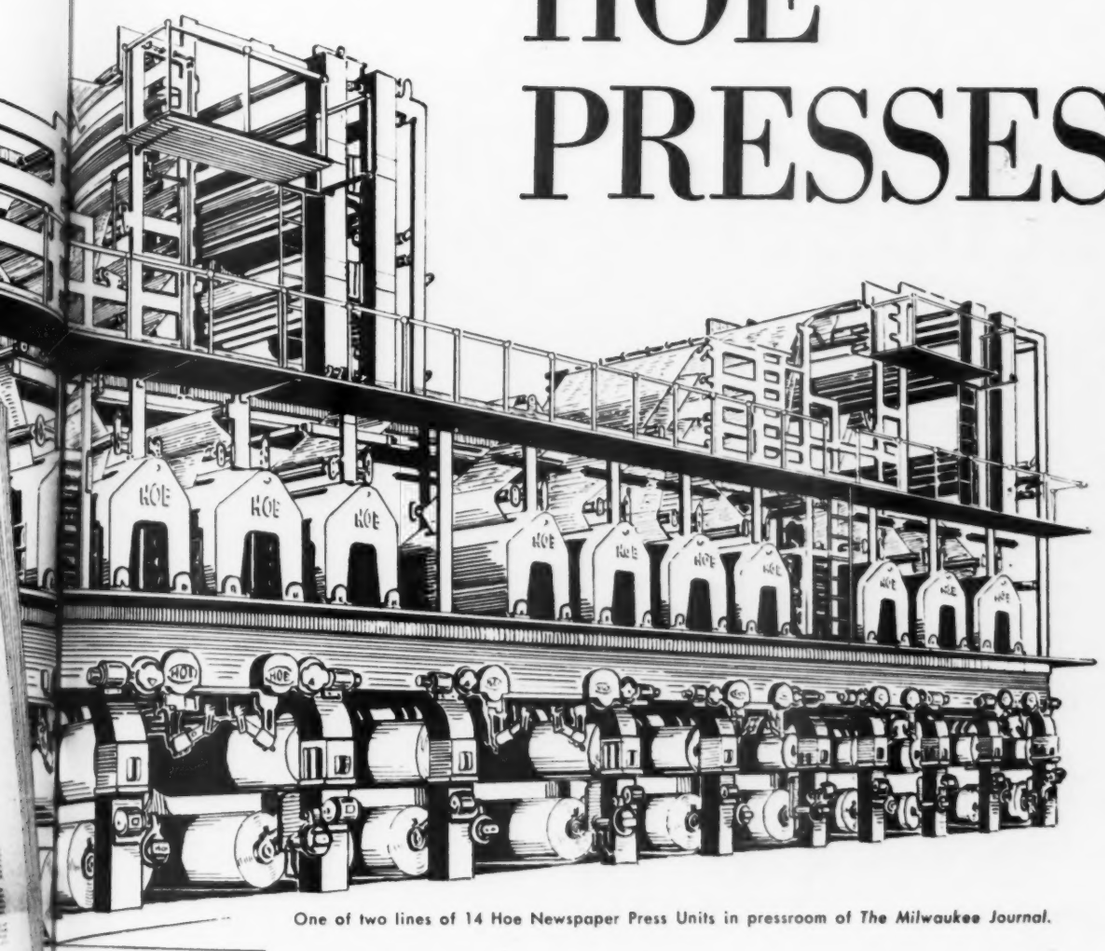
The Milwaukee Journa s

1953 was the fourth consecutive year that *The Milwaukee Journal* has carried the largest advertising linage of any newspaper in the world, and the use of ROP color in its pages has also increased correspondingly.

The Journal states that, "Hoe equipment has proved most satisfactory for the tremendous press production, both for straight black and ROP color printing, and the recent Overhead Full-Color Deck installation has greatly increased color capacity and flexibility as to color positioning, without sacrificing black page capacity."


HOE
THE MILWAUKEE JOURNAL
US Considers New Aid to French in Indo-China
Cuts in Taxes Urged to Stop Economic Dip
Chinese Reds Ask World to Step Up Trade
US Use of Power Praised by Influential London Paper
More Planes, Pilot Training Are Discussed
A New Baby Helps Welcome 'Dr. Kate'
Customs Post for Gettelman
Milwaukee
Ignoring Rail Signals Fatal
Forecasts More Flurries of Snow
Taxi Driver Brings His Fare to Court on Assault Charge
Replies to 'Fast Time' Plea Give Wide Edge to Switch

...nal sets another record on HOE PRESSES!



One of two lines of 14 Hoe Newspaper Press Units in pressroom of *The Milwaukee Journal*.

Last year *The Milwaukee Journal* became the first publication of any kind to carry fifty million lines of advertising in a single year. Actually its total for 1953 exceeded 51,000,000 lines.

Paralleling its remarkable records for total advertising linage, *The Journal* has been a consistent leader in ROP color advertising. In 1948 its ROP color linage passed the million mark – in 1953 it ran over a million and a half lines.

To twelve HOE Arched-Type Press units erected in 1939, *The Journal* added sixteen Color-Convertible units in 1947, being among the first newspapers to install this model. And to handle the steadily increasing ROP color linage, ultra-modern Overhead Full-Color equipment of a completely new design was installed on these units last summer.

All the new press equipment which *The Journal* has installed in the past twenty years has been HOE.

That *The Milwaukee Journal*—recognized leader in the use of color – relies on HOE presses for its huge production is the most practical kind of testimony to the dependability of HOE equipment.

R. HOE & CO., INC.

910 East 138th Street • New York 54, N. Y.

BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO
BIRMINGHAM • PORTLAND, ORE.

1 one and only one brand of
TELETYPESETTER TAPE
MAILING PAPER
LISTING PAPER
can be supplied to you from the nearest of
4 different U.S. points—

The Teletypesetter Tape
used on more Teletypesetters
than any *other* Brand.

This Trade Mark

PERFECTION

and Service
means Perfection in Performance as well
as in Name

Perfection®
IS YOUR PROTECTION
The World's Leading Brand of Communication Papers

PAPER MANUFACTURERS COMPANY
Main Office: PHILADELPHIA 15, PENNSYLVANIA
Sales Representatives: Atlanta • Chicago • New York • Cleveland • Los Angeles
San Francisco • New England
Pacific Coast Warehouses: Los Angeles • San Francisco *Plants:* Philadelphia • Indianapolis

Wiretyer - Streamlines MAILROOM PRODUCTION at far less cost!

Fully Automatic

Wiretyer at work in various plants where speed and easy handling are essentials.

Wiretyer installations serving these well-known publishers:

Akron Beacon-Journal	Miami Herald
Danner Press	Milwaukee Journal
Florida Times-Union	Newark Evening News
New York Herald-Tribune	

FEW modern mechanical miracles are as impressive as ponderous, high-speed newspaper presses that turn out many thousands of complete newspapers in a matter of minutes.

Up to now, the problem of bundling this prodigious output and getting it promptly to waiting trucks has been a major bottleneck in newspaper mailrooms.

Now, Wiretyer equipment is serving newspapers across the country with unprecedented speed and economy of operation that amortizes its cost in just a few years.

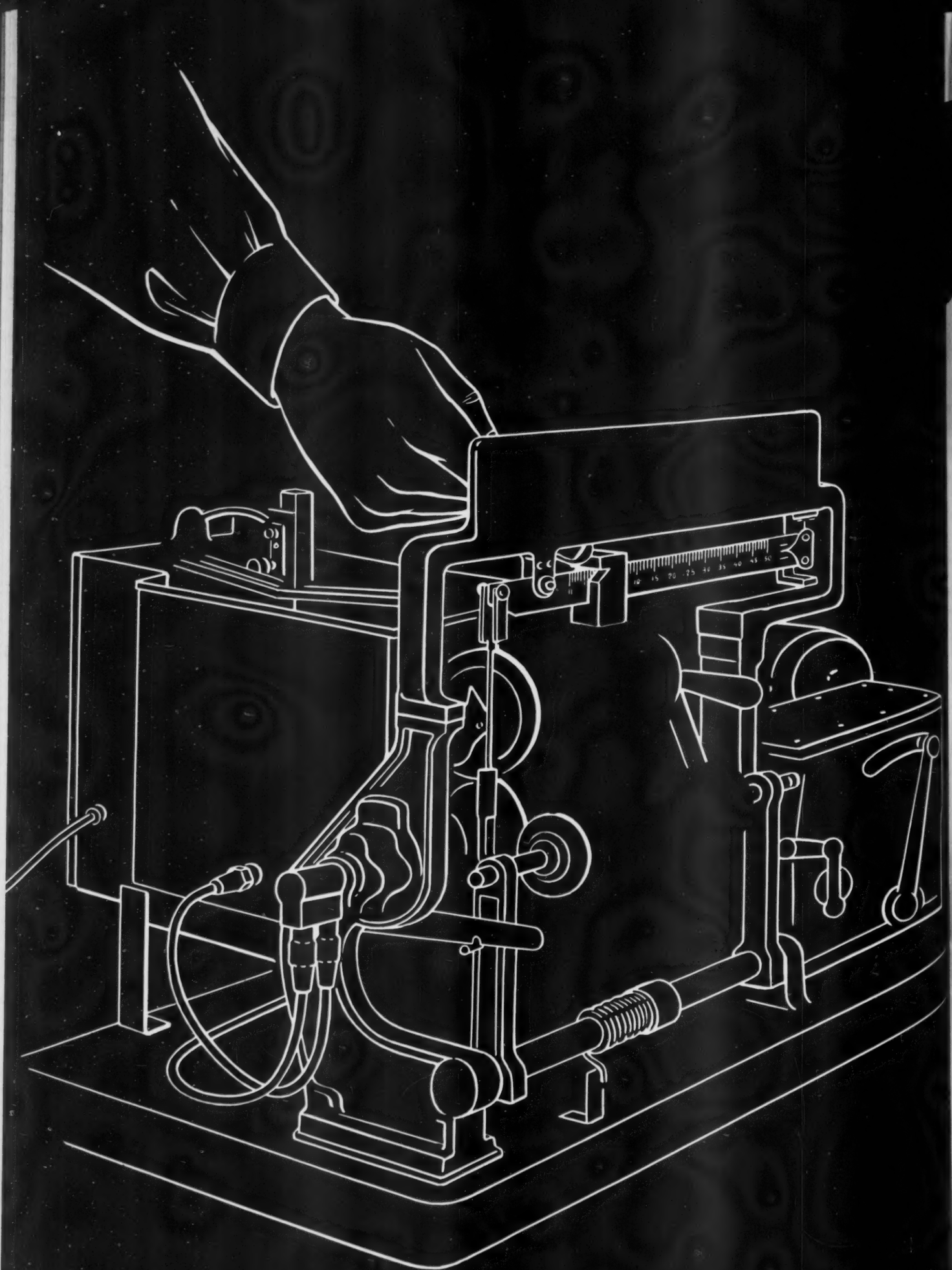
What this remarkable new development is accomplishing for newspapers and publications generally it can do with equal facility and flexibility in any industry having occasion to produce strong, pilfer-proof bundles of soft or hard goods, with speed and economy.

Write today for your copy of Wiretyer Bulletin 101. Until you examine the possibilities of this equipment, in its relationship to your business, you cannot possibly appreciate the remarkable advantages of this revolutionary development.

WIRETYER CORPORATION

6-53-5

230 WARBURTON AVENUE, HAWTHORNE, NEW JERSEY



Testing ink tack at IPI is a laboratory-controlled procedure under simulated press conditions

This dynamic, highly-accurate method for measuring ink tack long ago replaced the old-fashioned, hit-or-miss "finger" test at IPI.

The sensitive Inkometer (shown at left) gauges the tack of lithographic and printing inks as they are worked on the rollers at various speeds, temperatures and ink film thicknesses that closely approximate the conditions of actual printing. It also measures changes in tack due to solvent evaporation and other factors.

Numerical measurements of the amount of torque needed to work the ink film can then be compared against established standards of ink consistency. These enable IPI experts to control the tack of repeat batches . . . to make process inks trap better . . . to formulate inks that satisfactorily meet the requirements of any given set of press conditions.

Here is another forward step in the quality control of IPI printing inks . . . a further reason why our inks behave better, print better, look better on the sheet.

IPI service at work for you

Printing plants of all sizes are invited to use IPI's complete ink service facilities in printing centers from coast to coast. Each local IPI service station and branch is staffed by local experienced ink men, well-seasoned in the special printing problems of each locality. They are always on call to help you solve any printing problems—large or small—that may arise. For prompt ink service with a personal touch, contact IPI.

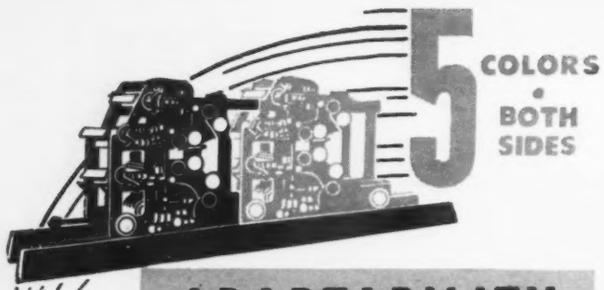
IPI and IC are trade-marks of Interchemical Corporation

Interchemical Corporation

PRINTING INK DIVISION • 67 W. 44th ST., NEW YORK 36, N. Y.

INTERCHEMICAL PRINTING INKS

RELY ON IPI FOR LEADERSHIP IN INK RESEARCH



ADAPTABILITY

2 COLORS

The adaptability of Hess & Barker's Multicolor Web Fed Letterpress to profitably print folders, booklets, magazines, food containers, etc. is approved at home and abroad. And, because of Hess & Barker's unique frame design you can start with 4 colors one side or 2 colors 2 sides. As your requirements increase add up to 5 colors both sides. Special fountain keys hold full color for entire run. Quick accessibility reduces changeover time. Tapered gear teeth guarantee 100% hair line register. Plates last longer on solid steel cylinders. Speeds up to 10,000 sheets an hour or roll delivery up to 600 feet per minute. Write today giving your requirements, specific recommendations will be mailed promptly.

MULTICOLOR WEB-FED LETTERPRESS

Manufactured by

HESS & BARKER

Printing Press and Equipment Manufacturers

212-22 SOUTH DARIEN ST., PHILA. 7, PA.

Telephone: WAlnut 3:0248

Face-O-Type

SAMPLE OF WORK

Mechanically Reproduces an Engraved Type Screen Pattern

Space: 18" long, 6" wide—Weight: Approx. 50 lbs.

- **Will cut page cost and speed production.**
- **Comes equipped with two different screen patterns. Either pattern can be used without making any change on machine.**
- **Mechanically screens the face of type-high slugs, border and hand type cast in stereotype metal.**
- **Manually operated, precision built and easy maintenance.**
- **Will take slugs up to 144 pt. condensed, borders up to 84 pt. by 72 picas, hand type up to 96 pt.**

CAPITAL TOOL & MANUFACTURING CO.

5000 Calvert Rd. • College Park, Md. • Union 4-7677

News Items

(Continued from Page 42) •

Carlson Co. has developed a new stereotype chase, a plate finishing machine of new design for stereotypes and zinc engravings, as well as what has been named a classified ready-rack.

MacDONALD

MacDonald-Fisher Selected — John H. MacDonald has been named Executive Vice President and William J. Fisher a director of George F. Motter's Sons, it was announced recently by Pres. George F. Motter. MacDonald succeeds the late J. P. Davey. He has been a director of the organization since March, 1953. Prior to that time he was associated with Brown & Sharpe Mfg. Co., Rogers, Slade & Hill, Keller Mechanical Engineering Co., and was Vice Pres. and Treas. of Natl. Broadcasting Co. Fisher, Vice Pres. of Oliver Corporation, is a former president of the A. B. Farquhar Co., York, Pa., an Oliver Corporation division. He also is a past president and a director of the Manufacturers Association of York.

Hellmuth Elects Schuermann — Lester Osterman, Pres., Charles Hellmuth Printing Ink Corp., has announced the election of O. Schuermann to the corporation's Board of Directors. Schuermann has been associated with the Hellmuth organization for three years and was appointed Mgr. of the company's St. Louis office Jan. 1, 1953.

To commemorate the 100th anniversary of the birth of Ottmar Mergenthaler, observed May 11, a special stamp was issued, and the Linotype inventor's only surviving son, Herman Mergenthaler of Rye, N. Y., attended dedication ceremonies of the reconstructed Mergenthaler Museum in Hachtel, Western Germany, on May 9. The stamp, issued in the denomination of 10 pfennig, was authorized March 29 by the Senate of West Berlin, to be available for use May 11. A special post office was opened at Hachtel, the inventor's birthplace, for mail posted in connection with the anniversary. The stamp design was executed by Hermann Zapf, a leading contemporary German artist. The younger Mergenthaler was accompanied by his wife.

MERGENTHALER'S SON

Extra Equipment at Carnegie — Photolithography facilities and equipment installed recently in the typography and presswork laboratories will be available to students taking the six-week courses offered by the School of Printing Management at Carnegie Institute of Technology, June 28—Aug. 7., according to Kenneth R. Burchard, Asst. Dean of the School of Printing Management and in charge of the School's summer printing program. The courses are designed to aid teachers of printing commercial shop employees, and others working or interested in the Graphic Arts who cannot attend normal

(Continued on Page 120)

FAIRCHILD

electronic research brings you

3

IN HIGH-FIDELITY ENGRAVING

- **The Scan-a-graver**
- **The Scan-a-sizer**
- **The Variable Response Unit**

Just six years ago Fairchild introduced the Scan-a-graver. Before long, many small and medium-sized newspapers had their own engraving facilities and were able to make wider use of pictures. The low cost and fast, faithful reproduction of electronic engraving made it possible. Since then, Fairchild research has produced many major improvements in the Scan-a-graver, and made them available to all users.

NOW, Fairchild brings you the latest developments in the rapidly growing science of electronic engraving:

THE SCAN-A-SIZER is an electronic engraving machine that will automatically enlarge and reduce copy as it engraves. It will provide a selection of 85- and 120-line screens, and produce halftones as large as 11″ by 14″.

THE VARIABLE RESPONSE UNIT will operate in conjunction with either the Scan-a-graver or the Scan-a-sizer. It will give you precise electronic control of the tonal values in an engraving to bring out detail or create emphasis, and to compensate for variations in inks and paper.

SEE THEM ALL AT THE A.N.P.A. MECHANICAL CONFERENCE

New-

VARIABLE RESPONSE UNIT

provides COMPLETE CONTROL of gray values

Not all photographs are perfect. Not all inks and papers react the same way to give perfect reproduction. Now you can compensate for variations in photographic copy and mechanical media by varying tonal values and dot structure during the engraving process.

The Fairchild Variable Response Unit introduces a new concept of high-fidelity engraving. It gives you electronic control of the details, the contrasts and the emphasis in a halftone—to recreate the impact of the original scene for the newspaper reader.

Technically, the Variable Response Unit will let you increase or decrease the number and definition of the gray values in any brightness range of the illustration—to get sharper or better highlights, more middle values, more detail in the shadows, or more or less contrast. The degree of this control is greater than has ever been possible by any other means. The unit will operate in conjunction with either the Scan-a-graver or the Scan-a-sizer. It will be available for leasing in 1955.

New-

SCAN-A-SIZER

ENLARGES and REDUCES automatically

LEASING PROVIDES EQUIPMENT FLEXIBILITY

Lessees of Fairchild equipment always have the option of selecting the equipment that is best suited for their job—whether it is the Standard or Cadet Scan-a-graver, the new Scan-a-sizer, or any other machine that will be developed in the future. There are no problems or costs of obsolescence or depreciation under a Fairchild lease. This protection is especially valuable in a young and growing field like electronic engraving.

Here's the latest development in the rapidly growing field of electronic engraving – the new Fairchild Scan-a-sizer! This machine—to be available in 1955—will enlarge or reduce original copy as much as 4½ times—and produce Scan-a-gravings as large as 11" x 14". New, dramatic editorial formats and advertising layouts are possible.

You can use the Scan-a-sizer to produce high-quality halftones for your job shop, too. Just shift gears and change from 85-line to 120-line screen. New simplified controls on the Scan-a-sizer give you improved tone-scale sensitivity. Difficult copy, even flat-mounted artwork as big as 18" x 22½", can be faithfully reproduced. The machine is easy to operate and produces the same high quality plastic engravings that have made previous models of the Scan-a-graver so successful.

• If you're looking for the latest production methods, but don't want to run the risk of quick obsolescence, find out more about Fairchild's leasing arrangement. The Scan-a-sizer and Scan-a-graver are electronic machines that produce low-cost, plastic halftones – right in your own shop.

FAIRCHILD
CAMERA AND INSTRUMENT
CORPORATION

Scan-a-gravings can be mounted directly on the cast. Double-faced Scotch tape holds the plastic cut securely.

Direct printing from flexible Scan-a-gravings gives sparkling halftones. Late cuts don't hold up composing and stereo rooms

SCAN-A-GRAVINGS

improve reproduction quality ... cut presstime rush

Direct printing from Scan-a-gravings assures clean, sharp reproduction of editorial or advertising illustrations. None of the detail is lost in mats or stereos. These plastic cuts are mounted on the stereo just as they come from the Scan-a-graver.

Last minute presstime rushes because of late cuts are eliminated when you're using Scan-a-gravings. Mats are rolled with blanks in the page form, stereos are cast and then delivered to the pressroom in an even flow—rather than being held up waiting for cuts. When the cuts arrive from the Scan-a-graver they can be mounted on the stereo, right on the press if necessary.

When cuts are late, lock up forms with blank bases in position; Scan-a-gravings are easy to mount on stereos and give better reproduction.

● *Thousands of daily and weekly newspapers are now printing direct from Scan-a-gravings for better quality reproduction. Get the full story about the Scan-a-graver and learn how it can help solve some of your mechanical problems by writing today to Fairchild Camera and Instrument Corporation, Syosset, Long Island, New York, Department 100-88.*

FAIRCHILD
CAMERA AND INSTRUMENT
CORPORATION

RELY ON YOUR FRIEND

. . . *The Certified Man*

He does not pretend to "know it all." He never butts in where he has not been asked.

However, he has been a friend in need to stereo workers in many hundreds of cases.

Traveling around and meeting all the good stereotypers, he does not have to be a genius to pick up a lot of valuable information and ideas. The thing that some shop knows particularly well, may be the very thing you want to know.

So check the right name on the list below. Make the best of his friendship. It will be both pleasant and profitable.

C. R. BORCKARDT
3114 Berkshire Road,
Cleveland Heights 18, Ohio

E. J. COOK, JR.
46 Belvidere Street, Springfield 8, Mass.

H. W. HAMILTON
Certified Dry Mat Corporation
9 Rockefeller Plaza, New York 20, N. Y.

E. F. PEARSON
1137 Iranistan Avenue, Bridgeport 5, Conn.

L. E. PRICE*
P. O. Box 98, Natural Bridge, Va.

*on temporary leave of absence due to health

R. ROBINSON
3106 S. W. 12th Street Place,
Des Moines 15, Iowa

BEN A. ROTH
2361 Knight Way, Sacramento, California

JOE NATOLIS
2754 S. W. 12th St., Miami, Fla.

W. E. BOOTH COMPANY LTD.
12 Mercer Street, Toronto 2B, Ont., Canada

W. E. BOOTH COMPANY, LTD.
480 Lagauchetiere St., W.,
Montreal, Que., Canada

HENRY LEVY
576 Seymour Street,
Vancouver, B. C., Canada

CERTIFIED DRY MAT CORPORATION
9 Rockefeller Plaza Dept. M. New York 20, N. Y.

Certified
DRY MATS

For dependable stereotyping, rely on Certified Dry Mats

More and more pressroom foremen are proving that **Vulcan** *press blankets are best for quality reproduction.*

GET THE FACTS TODAY

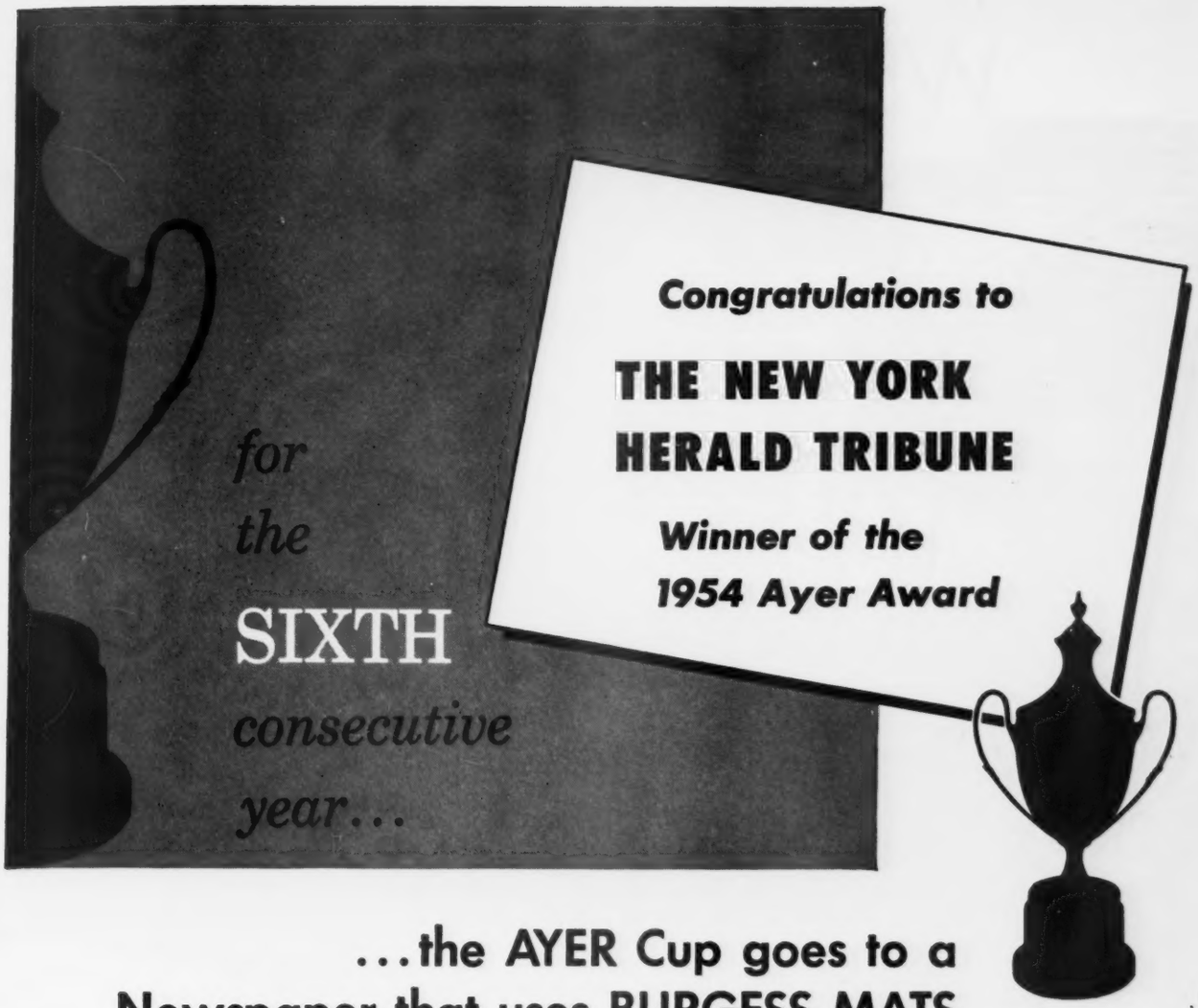
on Vulcan's famous 2-piece #67-76 combination

Write to

VULCAN RUBBER PRODUCTS, INC.

54 Worth Street, New York 13, N. Y.

Manufacturer of Vulcan-Duroflex products
A subsidiary of Reeves Brothers, Inc.



...the AYER Cup goes to a Newspaper that uses BURGESS MATS

Every year since 1949 the Ayer Cup has been won by newspapers that are users of Burgess Mats. This year's winner—The New York Herald Tribune—was selected as the best of the 829 daily newspapers entered in the 24th Annual Exhibition of Newspaper Typography. This is the eighth time the Cup has been awarded The Herald Tribune.

Also—7 out of 9 Honorable Mentions this year go to Burgess Mat users —The Salt Lake Tribune, The New York Times, The Washington Post, The Gary (Ind.) Post-Tribune, The Iron Mountain (Mich.) News, The Norman (Okla.) Transcript, and The Peru (Ind.) Daily Tribune.

It is an honor for us that so many excellent newspapers—large and small—are doing a better job with Burgess Mats.

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

BURGESS Chrome MATS

Want Better Unit Drive P

CUTLER-HAMMER
MOTOR CONTROL
C-H

Cutler-Hammer Unit Control System for
WICHITA (KANSAS) **EAGLE**

R. Hoe & Company press, 4 units and one folder at present. Printing capacity, 45,000 copies per hour. Two additional press units with Cutler-Hammer Control Units are now being added.

CUTLER-HAMMER
MOTOR CONTROL
C-H

MILLIONS OF MAGAZINES A MONTH

The C. T. Dearing Printing Co., Louisville, Ky., produces more than 30,000,000 copies of a dozen or more leading magazines a month on two Cottrell 5-color presses and two Goss magazine presses. These four presses represent $2 million worth of precision equipment. They are completely equipped with Cutler-Hammer Drives and Control.

Press Performance?

keep it simple—keep it sturdy

KEEP IT CUTLER-HAMMER

It makes sense . . . and it makes money . . . to look for the simplest and most dependable unit newspaper drive and control. To look for anything *else* is to look for trouble.

This hard common sense is leading more and more experienced newspaper men to the Cutler-Hammer Unit Control system for unit drive motors on their new unit presses. This is a *paired* system . . . simple, sturdy, trouble-free unit a.c. wound rotor motors *paired* with Cutler-Hammer Unit Drive Control made up of simple, sturdy industrial type control components known to every plant electrician . . . and together giving you the fundamental needs. Easy inching and threading, smooth acceleration to maximum press running speed, high efficiency at running speed, perfect synchronization of motors, long life, freedom from trouble, flexibility . . . all these are yours together with specific Cutler-Hammer superiorities. There's the new C-H cam drum accelerating device with 72 speed points. There's the fact that inching and threading *don't* draw current through the unit drive motors. There's freedom from troubles such as changing load adjusting resistor switches, unbalanced loads, circulating currents and excessive peaks. *And your own electrician can service this drive and can service this control.*

The C-H Representative has a dramatic and compelling story to tell. See him before you buy. CUTLER-HAMMER, Inc., 1460 St. Paul Avenue, Milwaukee 1, Wisconsin.

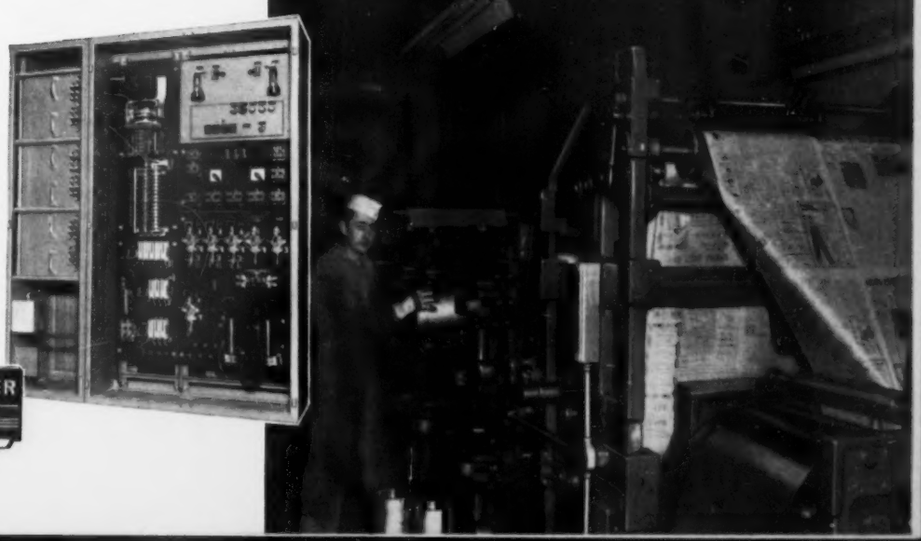
CUTLER-HAMMER
WEB BREAK DETECTORS

Stop press quickly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

CUTLER-HAMMER
MOTOR CONTROL
C-H

CUTLER-HAMMER
WEB SEVERING DEVICE

A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.



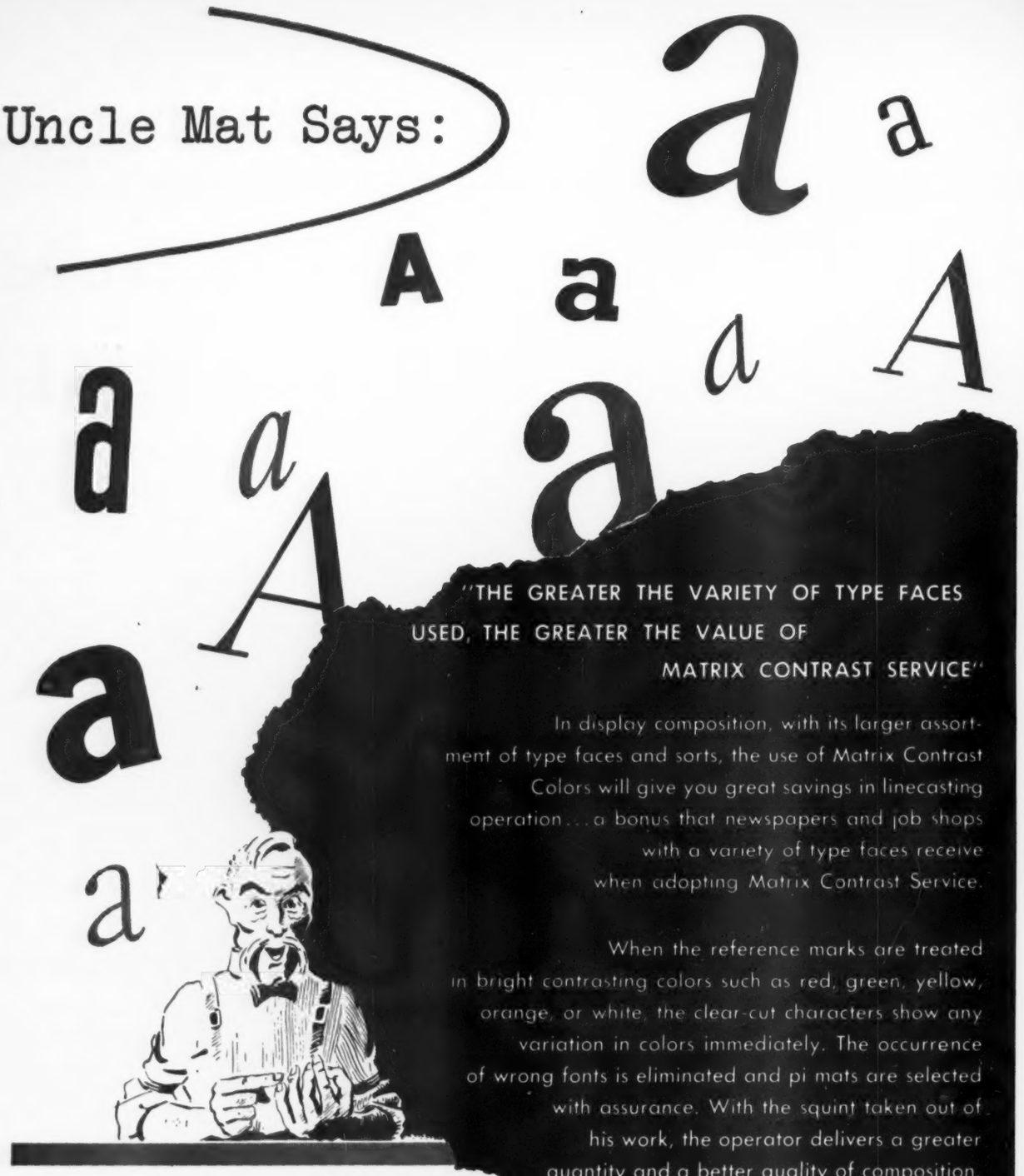
Cutler-Hammer Electronic Control for single motor drive on Goss Dek-A-Tube press in plant of

MADISONVILLE, KY., MESSENGER

"The whole setup is running smoothly, and we are looking forward to many years of satisfactory operation," says Edgar Arnold, Jr., Assistant Editor.

CUTLER-HAMMER
MOTOR CONTROL
C-H

Uncle Mat Says:



"THE GREATER THE VARIETY OF TYPE FACES USED, THE GREATER THE VALUE OF MATRIX CONTRAST SERVICE"

In display composition, with its larger assortment of type faces and sorts, the use of Matrix Contrast Colors will give you great savings in linecasting operation... a bonus that newspapers and job shops with a variety of type faces receive when adopting Matrix Contrast Service.

When the reference marks are treated in bright contrasting colors such as red, green, yellow, orange, or white, the clear-cut characters show any variation in colors immediately. The occurrence of wrong fonts is eliminated and pi mats are selected with assurance. With the squint taken out of his work, the operator delivers a greater quantity and a better quality of composition.

Take it from your old Uncle Mat...

not one but five persons are pleased when Matrix Contrast Service is installed... the operator, the machinist, the employer, the reader, and the advertiser.

Copyright 1953, Matrix Contrast Corporation

MATRIX CONTRAST SERVICE *MATRIX CONTRAST CORPORATION*

154 West 14th Street, New York 11, N. Y.
326 W. Madison Street, Chicago 6, Ill.
1105 Trenton Street, Los Angeles 15, Calif.

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PRospect 1-0088

is *Printing Equipment Engineer's* new telephone number. It was given to us immediately after moving into our new offices. The street address remains the same—1276 West Third Street, Cleveland 13, Ohio.

ANPA Mechanical Conference

Sparkling Program and Exhibits

BETTER than 1000 mechanical and production executives from this country's and Canada's newspapers are expected to converge on Atlantic City, N. J., this June 7-9 for the 26th Annual Mechanical Conference of the American Newspaper Publishers Assoc. Awaiting them will be a program of high educational value coupled with the biggest show of newspaper equipment and supplies yet assembled at one of these meetings. The conference will be held at the Chalfonte-Haddon Hall Hotel located on the beach resort's famous boardwalk.

Planning for the three day meeting has been in the hands of the ANPA Mechanical Committee under the chairmanship of Joseph E. McMullen, Production Mgr., Milwaukee (Wis.) *Journal*. Details of the program have been in the hands of Richard E. Lewis, Manager of the ANPA Mechanical Dept. Pictures of the full committee, as well as backgrounds of its newly appointed members, are presented on the next three pages of this issue of *Printing Equipment Engineer*.

Largest Equipment and Supplies Exhibit

The Atlantic City equipment display will include late developments in the newspaper production field. One hundred exhibit spaces have been set aside for the more than 60 manufacturing and supply companies. Newspapermen having questions concerning machines, materials or methods are invited to contact the technical representatives of the exhibiting firms who will be present.

Smaller Paper Session

Planners of the 1954 Conference are making a bold bid for greater non-metropolitan newspaper representation by devoting an entire session to production problems of the smaller papers. The meeting will consist of a panel discussion, the participants of which are to be executives from small dailies located in various parts of the country. Each panel member is an acknowledged authority on the respective subject assigned to him for the discussion.

Other Sessions

In addition to the non-metropolitan meeting there will be sessions on preventive maintenance, fire prevention and planning and dispatch departments.

Once again, the engravers will include advertising problems among their discussions. A feature of the meeting will be explanations of the recently introduced engraving machines by speakers from Fairchild Camera & Instrument Corp. and Consolidated Photo Engravers & Lithographers Equipment Co. Another will be a talk on the Dow High-Speed Engraving Process.

Manufacturers of phototypesetting equipment will play an important role in the discussion scheduled for the composing room session. Mailroom executives will have the opportunity of comparing various bundle tying machines when speakers from four companies producing this equipment will present talks and movies

The balance of the Conference is to be divided between developments affecting the stereotype and press departments, and progress made in newspaper printing research. Executives planning to attend are being invited to submit advance questions on their production problems which will be answered at the respective sessions.

AMERICAN NEWSPAPER PUBLISHERS ASSOCIATION

Mechanical C

JOSEPH E. McMULLEN, Committee Chairman; Production Mgr., Milwaukee *Journal*

JOHN L. BLAKE (left), Vice Pres., Scripps-Howard Newspapers, New York; HENRY J. CONLAND (right), Asst. Secretary-Treasurer, Hartford (Conn.) *Courant*

LEVEN T. DEPUTY (left), Mechanical Supt., Dallas (Tex.) *Morning News;* WILLIAM DWIGHT (right), President, Holyoke (Mass.) *Transcript-Telegram*

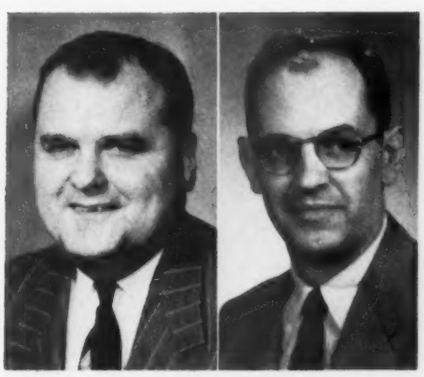
GEORGE R. HEARST (left), Vice Pres., Hearst Corporation, New York, N. Y.; STEPHEN J. LAMBERT (center), Mechanical Supt., Brooklyn (N.Y.) *Eagle;* HENRY MESSINA (right) Production Mgr., Los Angeles *Herald Express*

JOHN W. PARK (left), Production Mgr., Chicago *Tribune;* W. WATSON SOUTHAM (right), Executive Asst., The Southam Co., Ltd., Montreal, Can.

cal Committee

and Research Executives

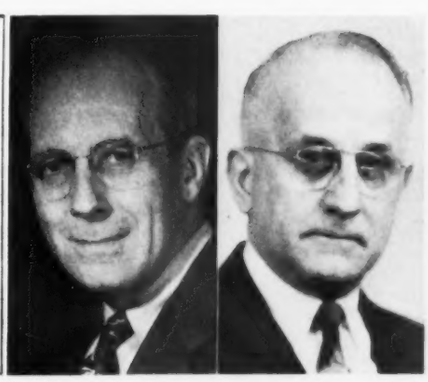
RICHARD E. LEWIS, Manager, ANPA Mechanical Department, New York, N. Y.



HARRY EYBERS (left), Production Mgr., Washington (D.C.) *Post;* HENRY GARLAND (right), Production Mgr., Pittsburgh (Pa.) *Post-Gazette*

WILLIAM E. GIBBONS (left), Production Mgr., Portland (Ore.) *Journal;* LESLIE J. GRINER (right), Production Mgr., Knight Newspapers, Detroit

Photograph of J. L. Scott was not received in time for publication in this ANPA Mechanical Committee presentation.



J. L. SCOTT (left), Richmond (Va.) *News-Leader* and *Times-Dispatch;* REGINALD TRANTER (center), Production Mgr., Boston *Herald Traveler;* EARL R. WEISKITTEL (right), Pressroom Supt., Youngstown (O.) *Vindicator*

FRANKLIN D. SCHURZ (left), Research Committee Chairman, and Secretary-Treasurer, South Bend (Ind.) *Tribune;* CLARENCE M. FLINT (right), ANPA Research Director, New York

ANPA Committee Additions Since '53

THE Mechanical Committee of the American Newspaper Publishers Assoc. is comprised of responsible executives from various parts of the newspaper printing industry, appointed for their experience background in solving newspaper production problems. Production, mechanical and management viewpoints are watched over by a 20-man group which includes research executives. *Printing Equipment Engineer* has annually recognized this Committee for its outstanding and important work and feels its readers would like to become acquainted in this issue with the backgrounds of the new members serving their industry. Those appointed since the 1953 ANPA Mechanical Conference are as follows:

WILLIAM DWIGHT has been with the Holyoke (Mass.) *Transcript-Telegram* for 27 years. Making his start in the editorial department, he has worked up to the position of president of that newspaper. He says his job now takes him into all departments of the paper and he enjoys working with everyone of them. At one time, Mr. Dwight was treasurer of Valley Photo Engraving Corp. in Holyoke. He is a graduate of Princeton University and the Columbia School of Journalism.

HENRY H. GARLAND presently holds the important post of Production Mgr. of the Pittsburgh *Post-Gazette*. His association with this newspaper has lasted for 29 years. In addition to serving his first year on the Mechanical Committee, Garland has also been a member of the ANPA ROP Color Committee.

GEORGE R. HEARST presently holds the title of Vice Pres. in Charge of Production with the Hearst Corporation, New York, N. Y. Formerly, Hearst was production manager of the Los Angeles *Examiner*. He has been with the Hearst firm for 10 years. Hearst attended the University of California, and includes aviation photography and radio among his hobbies.

HENRY (Tony) MESSINA has been Production Mgr. of the Los Angeles *Herald Express* for the past three years. Messina's career has included association with such newspapers as the Kansas City *Star Times*, Kansas City *Post*, Kansas City *Kansan*, St. Louis *Post-Dispatch*, St. Louis *Globe Democrat* and Chicago *Herald-American*. He has also served as vice president of the National Rotary Press, Akron, O., and in sales and service capacities with Burgess Cellulose Co. and Wood Flong Corp. He lists quality printing and production costs as the part of the newspaper business he enjoys most.

FRANKLIN D. SCHURZ, Secretary-Treasurer and Business Mgr. of the South Bend (Ind.) *Tribune*, serves this year as Chairman of the ANPA Mechanical Research Committee. Schurz has been with the *Tribune* since 1925 where he has spent considerable time in a study of newsprint, personnel and cost reduction problems. At one time in his career, he was connected with Price, Waterhouse & Co., Los Angeles. He received his AB degree from Harvard College in 1920 and a masters in business administration from the Harvard Business School a year later. Fishing and golf are his hobbies.

Plant Planning Project Held at Carnegie Tech

A joint project between fourth-year sub-senior architects and senior printing management students at Carnegie Institute of Technology began last fall at the Institute to provide students the opportunity of solving a true-to-life professional problem. The project is part of a required, full credit course for students specializing in Printing Production.

The semester-long project entailed the procedures necessary for financing a plant for producing a magazine with 3,500,000 circulation. Seventeen printing students were assigned to formulate the requirements and layout for such a plant, to meet with architectural students for planning a building to house the plant, and to consult with bankers for the possibilities of financing such an enterprise.

Shown above are the directors of the project grouped around a three-dimensional model of a printing plant. From left to right, William R. Taaffe, Assoc. Prof. Industrial Administration; John Pekruhn, Assoc. Prof. Architecture; and Charles Hopper, Senior, Printing Management School, all of Carnegie Tech.

The printing students were first informed that the plant was to be built in a suburban area of a previously non-industrialized town. In order to convince the townspeople of the advantages of the plant, the students were instructed to build an auditorium seating 850 people that would be used by the townspeople as well as plant employees. The students also were instructed to set up a control system for the plant.

When their requirements for a plant layout were in order, the printing students met for the first time with the architectural students to plan a building in which to house the plant. The printers presented a detailed model of the plant, scaled at ⅛ in. per ft., and sufficient background information, which required more than 1200 hrs. of school work including field trips to printing plants in Erie, Pa.; Buffalo, N. Y., and Philadelphia.

After the sessions of the printing and architectural students, the faculties of both the Architecture Dept. and the School of Printing Management together with representatives of the printing class judged the final presentations which had been drawn up during the joint meetings. The first of the three cash prizes offered by the Rust Engineering Co. of Pittsburgh, Pa., was awarded to John Schonder of Altoona, Pa.; the second to Jack Saro of Baltimore, Md., and the third to Harrison Uhl of Pittsburgh, Pa. The prizes, entitled the Rust Architectural Awards, are the seventh of such annual presentations made by the company to students in Carnegie's Architecture Dept.

The final project phase was the determination of the financial considerations of such an enterprise. The cost of the building itself was to be decided by the architects within the budget limitations imposed by the printers. The figure agreed upon by the two groups was approx. $9 million.

Four printers and one architect met with two bankers. At the end of a two-day session, the students were informed that financing requirements had been met, provided market conditions were favorable at the time of financing.

New Press for Ohio Boxboard

The Ohio Boxboard Co., Rittman, O., recently ordered a second Staude 1000 Rotogravure Press for inline operation with a Mercury Cutter and Creaser. This web fed 5-color press is adjustable from 23 in. to 46 in. circ. and is equipped with flexible all-electric drive. It is made by the E. G. Staude Mfg. Co., Inc.

Type Metal Contamination

Type metal companies long have advised users that type metal may become contaminated easily through careless introduction of zinc or electrotype plates into the type metal supply. We are mentioning one recent instance of type metal contamination in the composing room of a printing plant but not because it is a common cause. In this printing plant an air conditioning system was being installed. Part of the system consists of galvanized iron ducts. While installing the ducts, workmen trimmed off some of the zinc galvanized metal to make the sheets fit the ducts. The galvanized iron trimmings got into the type metal supply, causing trouble in the linecasting machines. Thus it appears that everyone in the plant should watch constantly causes of metal contamination irrespective of its per-infrequent or rare occurrence.

Use the Formula Method When You Need Equipment and Supplies

FROM time to time, *Printing Equipment Engineer* has advocated an effective procedure for securing management's consent to buy equipment and supplies. We want to discuss the subject again. Some plant executives have been heard to complain about their superior management officer: "The Old Man is tight—he won't buy anything." Perhaps in your case you haven't presented your request to the Old Man in the right way. There is always the right way to do things.

First of all, management must provide the money with which to make purchases. Usually, management is engrossed with many important business problems. Management realizes that equipment becomes obsolete, wears out, or cannot be made to produce greater output due to increased volume, but management cannot be expected to grasp all the details concerning a proposed equipment purchase through a verbal request. Of course, management must reply upon its plant executives for good production through efficient equipment. That's exactly why you are employed as a plant executive.

The smart plant executive will not wait until he is called on the carpet by management to explain why production costs have increased. He will anticipate management in this respect. The plant executive can anticipate management regarding any out-of-hand costs by requesting permission to buy new equipment before complaint about production costs occurs. In fact, in recent years, plant operating costs seem to have risen with aggravating and insistent regularity. It is all the more to the plant executive's credit if he can initiate proposals to his management to purchase equipment that will reduce costs.

As we have intimated above, verbal requests for equipment purchases mostly are futile. First of all, management may have to consult with other officers of the company regarding purchase of the equipment. Or, it might even be that the board of directors will have to be consulted in cases where a substantial amount of money is involved.

Some time may elapse after you have made your oral request. Consequently, management does not mentally retain all of the details regarding the proposed equipment purchase. Therefore, make it as easy as possible for the management executive by presenting your request in multiple copy typewritten form. Usually, the original and second copies would be presented to the plant superintendent, and in turn he will present the original to the management executive. The third copy is to be retained in your own files.

It isn't as simple as that. There's more to it. By all means, include in the request the approximate purchase price of the proposed equipment, the cost of operating per hour, the anticipated hourly or daily production, the labor cost per hr., and any other pertinent data.

No, you're not finished yet with making out your request. Opposite the data column you have tabulated introduce a new column showing operating cost per hour of the old machine, total hourly or daily production, aggravated repair charges, and labor cost. Then in a third column introduce the anticipated production savings which you believe will result from purchase of the new equipment. Such comparisons, if carefully done, are persuasive.

In case you have access to the records, consult the man who acts as auditor of your company. Find out about the depreciation record of the machine you propose to replace. In many instances you will find such information of inestimable assistance in formulating your request for modern equipment.

Now since you have provided a permanent record, you have minimized possible complications which may arise because of lack of detailed information. Everybody concerned with the proposed purchase can discuss it intelligently. This is a general outline of the procedure. Different situations regarding equipment purchases will arise. These can be taken care of in detail in the typewritten request. But do bear in mind machinery obsolescence, labor costs and increased output when formulating such requests.

When making out the request, just remember that from a month to several months or even a year may pass before management action is taken. Man's memory respecting detail is short. Circumvent this weakness by presenting your request in permanent and thoroughly detailed form.

In some cases, lack of modern or insufficient units may create a bottleneck in your plant. In such case, the typed request can be formulated to show what the bottleneck is costing the company.

We still have not discussed the plant which is not supplied with an inventory of repair and replacement parts and regularly used supplies. In those plants where departmental foremen are authorized to spend up to a certain maximum amount of money for repairs and regularly used supplies each month, no problem exists. The plant executive who is per-

mitted to spend up to a maximum amount of money each month through an average budgeted amount should be a happy man.

If you happen to be in the unhappy class, take time out to do some detailed thinking regarding spare machine parts and also regarding supplies such as are used regularly, some of which may be considered expendable. In these cases, make out two requests—one for supplies and one for machine parts inventory which you wish to install. It should be easy for you to determine how much profitable production time has been lost in a given month because of lack of repair or replacement parts. In the case of expendable supplies, don't try to overload the plant. Take an average of the consumption of the supplies over a six month or yearly period and show what machine or departmental downtime will cost and what downtime will be eliminated through purchase of supplies in anticipation of the average consumption. In other words, as a careful plant executive you are entitled to a fair supplies working cushion. It's a bad habit to be continually "putting the heat" on the supplier—besides it frazzles your nerves and those of your employees.

It may take some time for you to put across either the spare machine parts inventory or the floating supplies cushion—both cost money initially. You will have to be governed by management's attitudes in your plant as to whether or not you feel that you can be persuasive enough to put both proposals across at one time. Maybe you will find it the better plan to make each request at different times.

Since both the machine parts and supplies inventories are essential to the efficient operation of your plant, have confidence in the practicality of the idea. Your management executive will accede at the first opportunity. His estimation of you will go up immeasurably. Then, in the future your plant supervision tasks will be lightened. Speaking of confidence, you can't operate efficiently unless you do have the confidence of your management executive. Take the initiative and improve your relations with him.

Miller Receives Advertising Award — The Miller Printing Machinery Co. has been awarded first prize in the 1953 American Music Conference Advertising Award contest, sponsored by AMC to select the most effective use of music as an advertising theme for non-musical products and services. W. T. Clawson (right), Miller's Advertising Mgr., is shown accepting the citation from Marion Egbert (center), AMC Fieldman, while Dr. John C. Kendel (left), AMC Vice Pres., looks on. In the Miller ad was featured an illustration of a symphony conductor's hands against a black background in reference to Miller presses.

Printing Week Contests

Rules for the poster and stamp design contests for 1955 Printing Week sponsored by the Intl. Assoc. of Printing House Craftsmen have been announced by Intl. Printing Week Chairman Floyd C. Larson. The stamp design chosen for the first place award is adopted as the official emblem of the 1955 observance. The award-winning poster is distributed throughout the United States and Canada for display during Printing Week. Any person connected with the Graphic Arts is eligible. Deadline for entries in both contests is June 30, 1954. Winners are to be announced during the Craftsmen's convention in Philadelphia, August 8-11. Complete contest details may be obtained by writing Mr. Larson at U. S. Navy Printing Office, Great Lakes, Ill., or from any local Craftsmen's club.

G-E Exhibit at ANPA

Engineering services, from planning through production, will be the theme of General Electric Co.'s exhibit at the ANPA Mechanical Conference in Atlantic City, June 7-9. The company's display will be located in booths 70-71-72. Illustrative material will be available depicting the company services available to the newspaper printing industry. A feature of the exhibit will be a cut-away model of the G-E water-cooled ignitron tube for electrical press drives. G-E personnel in attendance at the exhibit will include W. V. Gough, Light Industries Sales Mgr.; R. E. Cragnolin, Supervisor, Printing Industries Sales; W. L. Wright and E. M. Stacey, Application Engineers; and G. Requa, Exhibit Supervisor.

Southwestern Graphic Arts Exposition

Five regional conventions of the printing and Graphic Arts industry are now scheduled for the period of the Southwestern Graphic Arts Exposition, July 3 through 11, at Houston's Shamrock Hotel's air-conditioned Hall of Exhibits and still other concurrent meetings are being considered, Exposition Business Mgr. O. K. Eden announced. Exhibits now committed are representative of all types of press, composing room, bindery, and litho equipment, supplies and accessories, including ink and paper.

"Graphic Arts men of the expanding and booming Southwest constitute the industry's most potent market," Eden added. "They want to buy to modernize present plants, and hundreds of plants are in the planning stage. The Southwest is too far from 'home base' to permit its Graphic Arts folks to journey to the East or North to inspect modern developments in equipment and accessories."

Major meetings scheduled in Houston for exposition time include: July 2-3, Ninth District Conference of the International Association of Printing House Craftsmen; July 4-7, Southwestern Conference, Printing Pressmen and Assistants of North America; July 5-6, Southwestern Graphic Arts Management Conference; July 9-10, Southwestern Typographical Composition Association; July 10-11, 4th Annual Southwestern Litho Clinic.

Particulars about exhibit space and other information may be had by communicating with Bus. Mgr. O. K. Eden, Southwestern Graphic Arts Exhibitors, 1108 Blodgett, Houston, Tex. Telephone KEystone 6525.

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Fire Prevention

in Graphic Arts Industry

By **MATHEW M. BRAIDECH,** *Director of Research, and*
LAURENCE M. FORD, *Research Engineer*
The National Board of Fire Underwriters, New York 38, N. Y.

IN SPITE of many recent advances in fire protection and the growth of fire departments in size and efficiency, many printing plants, even modern ones, are vulnerable to serious fires. A plant may contain intricate press equipment of great value, difficult to replace quickly, and yet susceptible to severe damage from a moderate fire and the water necessary to extinguish it.

Because of the increasing complexities of the business world, a serious fire may affect adversely the operations of an entire company. It can cause loss of skilled workers through unemployment, of customers, of suppliers, and of competitive position. Recovery from such loss may be slow and costly. For these reasons the prevention of fire losses should be the responsibility of all persons working in the industry.

Whether considering a small job shop or a large publishing house, the hazards are similar, although, of course, they will vary in degree. Records show that slightly more than one-half of all fires in printing and its allied industries result from hazards common to all industries—careless smoking, misuse of electricity, defective heating equipment, spontaneous ignition, exposures from other burning buildings and similar causes. One-quarter of the fires result from hazards special to the printing field, while about 20% have been due to unknown causes.

Essential to all fires is the simultaneous occurrence of an ignition source and a fuel source at one point. The most effective fire prevention methods are those which minimize the possibility of either being present, thus safeguarding against accidental introduction of one or the other.

Operation Mopup in press reel room, New York *Daily News* after four-alarm fire swept through second and third floors of *News* building early in February. Billowing smoke and flames broke out in ink duct which was being cleaned.

United Press Photo

Leading Cause of Fires

National Board of Fire Underwriters' records indicate that the leading cause of fires in the Graphic Arts industries is the careless use of matches and smoking materials. These fires usually result from still-burning cigarettes being discarded among combustibles or from the ignition of flammable solvents by lighted matches. Certain portions of most printing plants contain areas in which smoking should be prohibited; these include solvent and oil storage rooms, paper storage and baling areas, rotogravure pressrooms and any other locations where flammable liquids are used or heavy concentrations of combustibles, such as paper or paper dust, exist.

The complete prohibition of smoking is usually impractical and leads only to smoking in out-of-the-way places where fire, once started, is likely to gain considerable headway before discovery. A more satisfactory method of controlling the smoking hazard is to educate employees to the dangers of smoking near flammable vapors and other readily combustible materials, to define areas in which smoking can be permitted safely and to make provision for safe disposal of matches and cigarette butts in those locations.

Second Most Common Cause

The second most common source of ignition has been the use of gas flames for

ink drying or for static neutralization. Proper adjustment of the flame is, of course, essential to prevent ignition of the paper. Where such flames are used suitable automatic controls should be provided to shut-off the gas in case of paper stoppage and to prevent release of unburned, explosive gas if the flame is accidently extinguished.

Flame-type static neutralizers should not be used where highly volatile, flammable inks are likely to create explosive mixtures in the atmosphere. Other static removing devices such as grounded tinsel bars, radioactive isotopes, humidifiers, and electronic static eliminators are substitutes which do not have the open flame hazard.

Static electricity itself has been more of a nuisance than a fire hazard in printing on paper, although a few fires have resulted from ignition of solvent vapors by static sparks.

Pumping-out Operation to remove water from reel room in pressroom of New York *Daily News* after damage by fire and smoke. Newsprint is easily damaged after contact with water.

United Press Photo

Problem More Acute with Plastics

With plastics, the problem has been more acute. Many plastics are good insulating materials and build up large charges of static electricity which can arc across a considerable distance. A number of fires and explosions have taken place where flammable inks have been used in printing on plastic sheets. Since the static charges make handling of the materials in the presses difficult, static neutralizing equipment is almost mandatory to permit efficient printing as well as to minimize the fire danger.

Low Hazard Solvents

Solvents of many types are used in the Graphic Arts, not only in the formulation of inks, but also for cleaning type and forms, for washing press rolls, blankets, and other equipment, and in various adhesives. The degree of danger varies with the flammability, but the majority utilized are combustible to some extent and will contribute fuel to a fire. The Underwriters' Laboratories have tested a number of solvents and evaluated their fire hazards; where possible, inspected liquids of low hazard should be used.

A flammable liquid gives off vapors which are explosive or which burn with rapidity when mixed with air in the proper proportions. A mixture in which there is too much air and too little vapor is "too lean" to burn; the composition of the mixture is said to be below the lower explosive limit. Likewise, a "too rich" mixture—one which has an excessive amount of fuel—will not burn. In between these upper and lower explosive limits, however, fire or explosion is possible.

Flammable-Combustible Liquids

The distinction between a flammable liquid and one which is combustible is a matter of the ease with which flammable vapors are given off. Gasoline, for example, is considered a flammable liquid because at all normal temperatures it

(*Continued on Page 131*)

Pertinent Fire Safety Suggestions

Bulk Storage Facilities for flammable liquids should be constructed so as not to endanger the rest of the plant if involved in fire. Storage, if within the plant, should be cut off from the rest of the building by substantial fire resistive construction.

Flammable Ink Mixing Operations likewise should be segregated.

Drums of Solvents should be kept in the storage room, not in the work area.

The Quantities of Flammable Liquids in Work Areas Should Be as Small as Possible. Buckets or other open containers should never be used for storage or handling of flammable liquids. Glass bottles and ordinary metal cans are not suitable containers for flammable liquids in work areas because of the possibility of breakage, or of rupture in case of fire. All flammable solvents in the work area should be in approved safety cans.

Safety Cans are Ruggedly Built, with spring closing covers which minimize evaporation and the chance of accidental spilling if they are turned over. If involved in fire they are also designed to relieve internal pressure safely without rupturing and spraying their contents about.

Generation of Static Electricity created by the flow of solvents should be reduced by grounding storage drums and by electrically bonding together containers when liquids are being transferred from one to another.

All Electrical Equipment in areas where flammable liquid vapors may be encountered should be installed and maintained in accordance with the National Electrical Code requirements for hazardous locations.

Waste Solvents should not be disposed of by flushing into sanitary sewers. Such practices have led to numerous serious explosions in sewers. Solvents which are not to be reclaimed should be transported in a closed container to a dump or open area where they can be burned, a small quantity at a time, in a safe manner.

Cleanliness is Essential wherever flammable liquids are handled. All equipment should be kept clean and spills cleaned up promptly. Sand, dry earth, or special oil absorbent compounds can be used to soak up spills. As wood floors soak up and retain oil and similar liquids, metal pans should be placed under equipment and in other places where such liquids may be spilled.

Vapors of Almost All Solvents are Heavier Than Air and may flow long distances along the ground or floor to a source of ignition and then flash back. Spilling of flammable liquids should be avoided, while adequate ventilation should be provided to prevent formation of explosive mixtures of vapor and air at those points where the solvents may be exposed to the atmosphere.

Due to the Hazardous Nature of the Vapors to be Removed, It is Important that They Be Withdrawn from the Rooms or Equipment in Which They Are Generated and taken to the outside of the building in the most direct manner possible. Processes generating flammable vapors should be located along an outside wall of the building to facilitate efficient vapor removal. No ducts or other portions of any vapor removal system should extend into stories or rooms of a building other than those from which the vapor is being removed.

Exhaust Ducts from Stereotype Foundry Rooms and from Pressrooms accumulate a flammable interior coating which, in the case of the latter, is mostly a condensate of oils and inks along with paper shreds and dust. This offers considerable fire hazard unless removed regularly. Ducts should be designed so that they can be cleaned without endangering the persons doing the work. During cleaning, all operations which might release flammable vapors into the ventilating system should be stopped.

General Appearance Of Paper

(M. S. Kantrowitz, Chairman, Research Committee, Washington, (D.C.) Club of Printing House Craftsmen, Inc.)

ONE of the most objectionable features of paper is an unsatisfactory general appearance due to the inclusion of dirt. The term "dirt" may be applied to any foreign material embedded in the sheet. Microscopic examination of dirt generally found in paper reveals that it consists of black mineral and resinous specks, bark specks, shives, pieces of wood, rubber, wool hairs, color spots from undissolved dyes, oil, grease and wax spots.

Metallic particles have often been found embedded in the paper. They probably arise from wear of some part of the manufacturing equipment such as the wire screen of the paper machine or particles from the beater roll. An unsatisfactory general appearance of paper surface may also be occasioned by crush during the calendering process, thus producing a variegated surface and giving to the paper a mottled appearance, or it may be due to the presence of slime spots, calender marks, colored fibers or even to poor fiber formation during the manufacture of the sheet. The presence of even minute particles of dirt, scarcely discernible by the eye, affects the utility of the paper. It destroys the effectiveness of good printing and this is particularly degrading to the highlight effects in halftones. Gritty particles of dirt wear down the copper printing plates and halftones. In rotogravure printing, they scratch the polished non-printing surface of the copper cylinder, causing fine hairlines to be printed in the non-printing areas.

Wrapping papers used for packaging foodstuffs must be free from foreign particles to avoid possible contamination. Dirt in fine writing, bond, ledger and index papers produces an unsatisfactory appearance which affects their sales.

Lasky Buys Second ATF-Mann Press — ATF press erectors are shown here installing a second ATF-Mann two-color offset press in the plant of Lasky Company, Newark, N. J. These presses are equipped with a max. sheet size of 25½ in. by 36 in. The Lasky Company branched out into offset five years ago, starting with an ATF Chief 29.

Setting Circular Type

(Reprinted from the Toledo (Ohio) *Craftsman*)

So often the question is asked, "Can you set this line for me in a circle?" So often the answer is 'No.' It needn't be, because type will conform to most patterns that you might run up against. Let's take the circular setting as a starter. First you must establish the exact size of the finished job which is calculated on the basis of the depth of the type you wish to use plus the width of a 2 pt. lead or two, wrapped around a wood block.

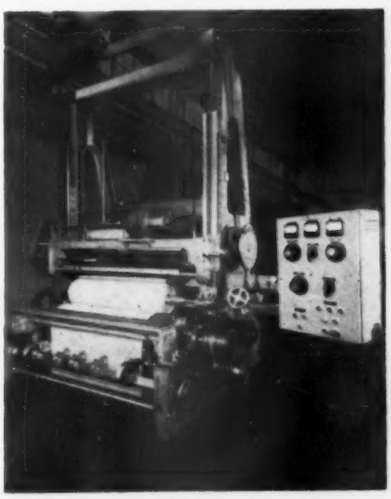
Take two square blocks of mounting wood, one of which should be at least ½ in. smaller than the other. Draw or scribe lines on each block that dissect all four corners *exactly* to establish the center of each block and then drive a fine nail through the established center of these two blocks, with the smaller block on the bottom.

Set your power saw blade at the exact circumference of the circle you have previously decided upon and having locked your table and gauge against the lower, or smaller block, start your saw and turn the top block on its nailed center against your saw blade and you will end up with a perfect circle, sized to your requirements.

Wrap a good quality 2 pt. lead tightly around this wood block until the ends meet and then take a piece of string and wrap around the block and the lead. This, when measured, will establish the pica measure that your line of type is to be set. In setting the line, it should be remembered that it will have to be letter spaced and, in doing this letter spacing, it is necessary to use spacing that is two point sizes smaller than the body face you are using.

After the line is set and justified, take a strip of cellulose tape and lay it on the nick side of your justified line, then, angle your line in the stick so that you can place another strip of cellulose tape on the reverse side.

Remove the prepared line from the stick and wrap it around the wood block, and just to make things tidy and neat, wrap another piece of tape completely around the circled line and wood block. This circled line can then be proofed, either separately or along with other normally set materials.



Kidder Mill Winder Completed — Officials of Kidder Press Co. have announced the completion of a 65 in. mill winder for installation in the mill finishing room of the Nekoosa-Edwards Paper Co., Port Edwards, Wis. On the machine are an all-electric regenerative type drive and an additional motor for driving the rider roll. Sponsor states that stocks varying from 26 lbs. to 91 lbs. can be handled on the mill winder. Other features of the machine are a pneumatic counter balance of rider roll assembly and gearless drive. The mill winder is equipped for unwinding and rewinding 60 in. diam. rolls at speeds up to 4000 ft. per min.

• *Time-Saving Tips*

Fast Makeready

MAKEREADY is one of the most time consuming operations in presswork in which pressmen continually try to improve their speed and skill. Some shops employ a 12 in. by 18 in. sheet of carbon paper fastened around the edges by masking tape on a sheet of heavy card stock of the same size. The pressman takes his first proof with a minimum amount of ink on the press and stabs it to hang in the press packing. The proof is laid on the carbon pad, printed side up. It should be noted that the sheet of carbon paper is also carbon side up. The pressman can immediately see the weaker printing areas, the solids, middletone and highlights. He can trace these areas from the front indicating as he goes along whether they need a tissue or folio patch, or require cutting out, in the case of highlights. These tracing lines will appear on the back of the proof enabling the pressman to apply quickly the proper patch to the weak area. Such a procedure levels off the form when the overlay sheet is properly hung in the press packing. In many types of work, it is all that is necessary in the makeready operation.

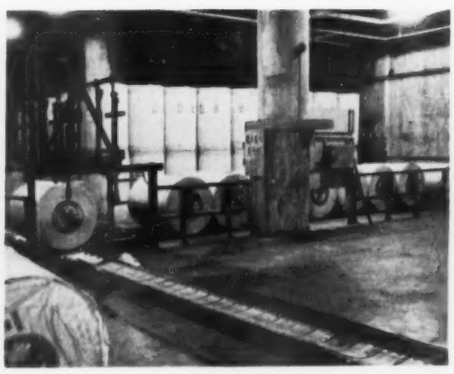
the Philadelphia Inquire a

STREAMLINE

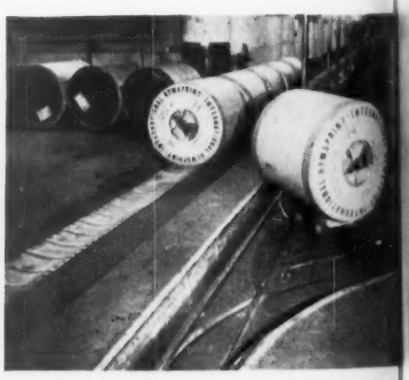
with JAMPOL HANDLING M

1 The enclosed 650 foot railroad siding and unloading platform handles 12 carloads of paper at once, serving the Inquirer and Triangle Publications, Inc. Roll conveyors travel its entire length so roll delivery can be made direct to transfer conveyors.

2 Rolls can be moved at a rate of 600 per hour, direct by branch conveyors into storage. The Jampol Roll Handling System is almost one-half mile in length, to move the rolls in and out of the vast storage area.



3 Selected rolls taken from storage are automatically transferred from storage conveyor to conveyors for delivery to Triangle Publications, Inc. reel room, with 61 rotogravure presses, or across bridges to Inquirer's reel room with 80 black and white presses.



4 In the reel room of Triangle Publications, I additional conveyors and Feralun non-slip tr system distributes rolls to storage and press

ire and Triangle Publications, Inc.

NE PRODUCTION

ING METHODS and EQUIPMENT!

With competition in the newspaper and magazine fields progressively keener, production-improving ideas and methods are in more urgent demand. The Philadelphia Inquirer and Triangle Publications, Inc. are an outstanding example of today's plant modernization to produce better newspapers and magazines more efficiently.

In these illustrations, you see how Jampol methods and equipment readily met the requirements for easing laborious manual handling and systematizing the varied operations involved in their almost continuous production.

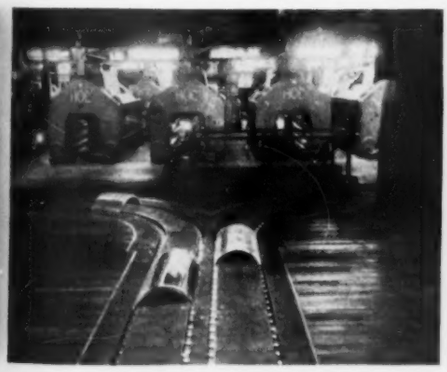
From knowledge gained by more than 25 years of planning, designing and building handling equipment tailored to different newspaper operating conditions, Jampol has gained an unmatched background of reliable and accurate specialized experience. This enables Jampol to develop and fabricate equipment to answer your most difficult handling requirements. We will welcome the opportunity to discuss your specific problems.

THE JAMPOL COMPANY, INC.

GENERAL OFFICES AND FACTORY

728-742 61st STREET, BROOKLYN 20, N. Y.

8 From the wire tiers, bundles are delivered onto bundle conveyors which carry them directly to loading platform conveyors for truck loading.



5 Jampol Stereotype Conveyors distribute plates to the Inquirer's new Hoe presses, and returns them for remelting.

6 Feralun non-slip flooring provides sure footing at plate conveyor and presses.

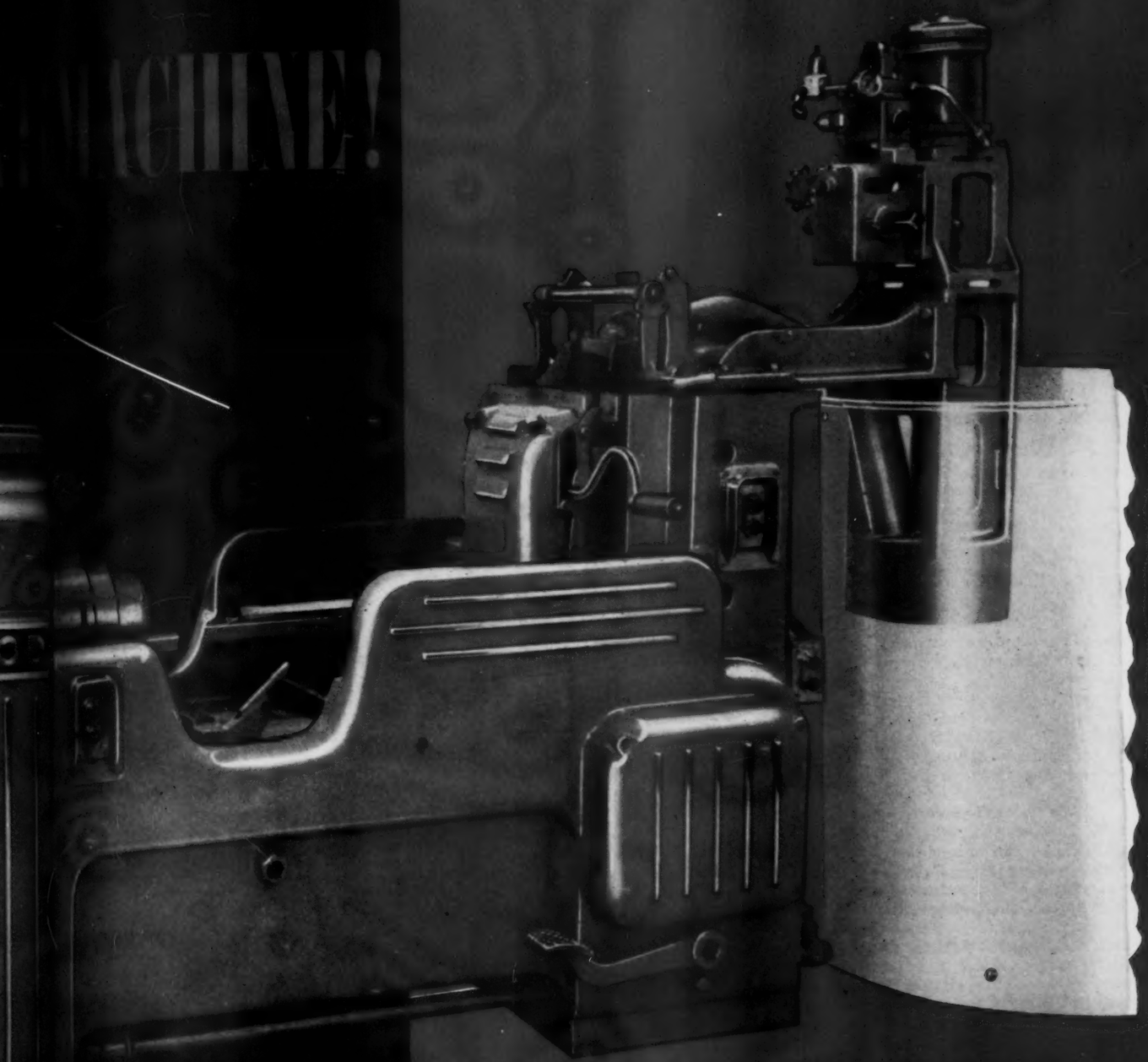
7 Ten feeder conveyors deliver stacks from Cutler-Hammer conveyors and Sheridan stuffing machines to ten Signode wire tying machines.

Announcing
THE NEW HEA
PONY AUTOPLA
IF IT'S Wood IT'S GOOD
WOOD NEWSPA
Plainfield, New Jersey

See the preview at

A·N·P·A

MECHANICAL CONFERENCE IN ATLANTIC CITY!



The New Heavy Duty Pony Autoplate Machine
is on display in the main lobby
at Haddon Hall.

MACHINERY CORPORATION

Executive and Sales Office: 501 Fifth Avenue, New York 17, N. Y.

Above—Before This Flour Mill Building *was converted to house a printing plant, it looked like this. Its substantial construction and location made it an ideal location for the Easton (Md.)* Star-Democrat's *new home. For transformation see view at right.*

Below — After Face Lifting Operation on Facade, *enlarging windows and removal of silos the flour mill building looks like this. Solid brick walls, heavy floor construction and ample room for growth of the Easton (Md.)* Star-Democrat's *business made this ruggedly constructed building a fine home.*

A New or An Existing Building To House the Growing Plant?

Consulting engineer discusses firms which are now housed in buildings erected for other purposes—Factors to consider when planning another site.

By J. W. ROCKEFELLER, Jr.*

**J. W. Rockefeller, jr., and Associates, New York, N. Y.*

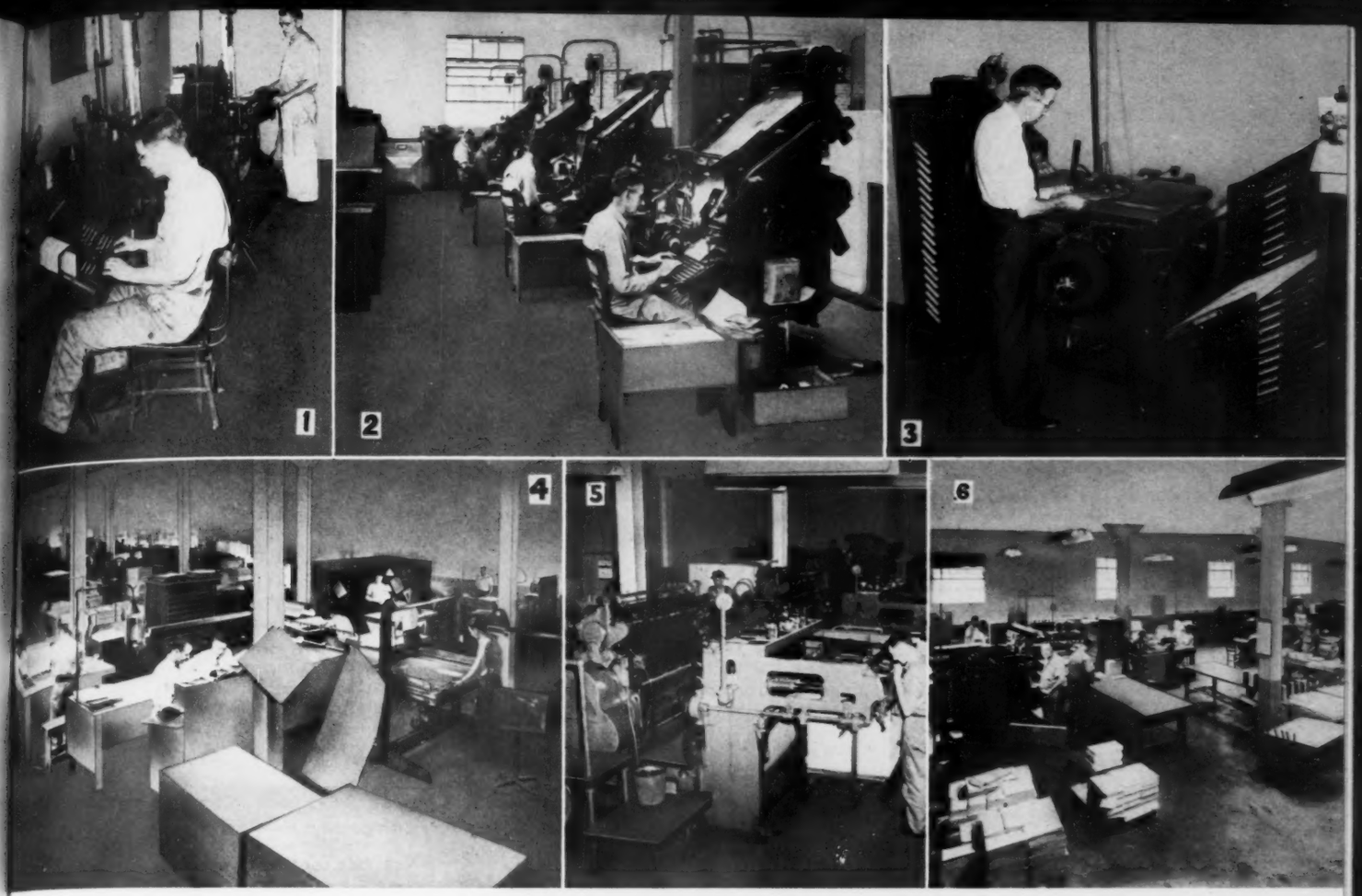
REDUCED to its common denominator, building is four walls and a roof. Since man constructed the first shelter to protect him from the elements, he has designed his houses, for the most part, functionally. Both the structures which have been put up to house him from the elements and his possessions against the cupidity of trespassers have been given their shape by such a utilitarian purpose, and have frequently through the honesty of such purpose achieved a beauty such as that which characterizes the clean lines of a Grecian column and escapes entirely the rococo ornamentation of our late nineteenth century.

Because man has been building functionally for many centuries, and because over that period of time, nature has supplied him excellent materials with which to build, we find, today some of the most up-to-date units of the printing industry housed in buildings that are frequently more than 50 years old. We find, too, successful plants in buildings that were constructed for an entirely different purpose. A building that has been described as "Unquestionably the most modern and at the same time the handsomest newspaper building in Maryland" was serving in 1911 to house a flour mill.

In Nashville, Tenn., a brick one-story building which once was used by the U. S. Tobacco Co. to store thousands of hogsheads of tobacco valued at millions of dollars, serves today as the home of one of the South's largest and most successful commercial printers. It has been our good fortune to inspect these and many other sites, while they were serving their original purposes, to visualize the changes that a little brick and mortar and steel might bring about and to conjure up the modern equipment that would crowd out the tobacco, the milling machinery or whatever else that would give way to the march of progress.

The Newspaper that Moved Into a Flour Mill

One of the nation's most successful and progressive weekly newspapers, the Easton *Star Democrat*, of Easton, Md., was just a few years ago, in the throes of growing pains for which but one remedy offered any relief, the acquiring of a larger building. To take care of its rapidly increasing circulation, the paper had ordered a new press, the dimensions of



Mechanical Department Views in Cullom & Ghertner plant, Nashville, Tenn. Firm prints by letterpress and offset a variety of commercial printing including sales form printing. Maintains separate plant in Atlanta, Ga.

1.—View in Monotype department.

2.—Linotype section of the composing room.

3.—Ample matrix selection assures wide variety of display composition.

4.—View in offset platemaking department.

5.—Much of Cullom & Ghertner's work is done in this offset pressroom.

6.—In the bindery there is ample capacity to take care of a wide variety of binding tasks.

which were such that the company's site on Dover St. in Easton, could not be stretched to accommodate it. During the growth of the newspaper, other evidence of change was apparent on the East shore of Maryland, as in other parts of the country. The rise of the automobile was presenting a parking problem as well as a traffic problem in the main streets of the city. Still other changes included the development and final abandonment of a flour mill on a site not too far from the newspaper, but still away from the cross currents of the city's traffic.

We were called upon to inspect the flour mill building and to pass upon its suitability as a home for a rapidly rising weekly newspaper and job printing business. What we found delighted us. The 4 ft. thick concrete bases which served as the foundation for the silos, indicated the general pattern which had been followed in the building's rugged construction.

The general floor plan lent itself admirably to a plant layout incorporating all the principles of good printing plant practice. It would be necessary to take down the silos, enlarge the windows and do a little face lifting on the facade, but here were four solid brick walls (and what walls), heavy floor construction and ample room for growth on a site that provided parking space and was within a short walk of the bus lines.

The metamorphosis of the building is shown graphically in the accompanying halftone illustrations.

Tobacco Warehouse Became Printing Plant

In 1938 we were first engaged in a consulting capacity by the Cullom & Ghertner Co., Nashville, Tenn., one of the rapidly rising commercial printing companies of the new industrial South. Even a casual inspection of the company's growth rate and the physical limitations of its plant indicated a head on collision of the two at a not too far distant point in time. This fact was reported and duly noted. The search for a new plant site began. Ten years later the search was still on in earnest. Meanwhile the resourcefullness of the company's executives as well as our own staff had been taxed to limits, which may never again be approached in the history of the Graphic Arts. Every loft that became available for the storage of paper, in the city of Nashville, presented a challenge. The company's paper was being stored in three different locations in the city in addition to the main building itself. Mother necessity, however, probably achieved a new goal in inducing invention, when ceiling measurements in one of the main buildings indicated that a whole new floor could be created, practically out of thin air. Even this offered but temporary relief.

About this time, the U. S. Tobacco Co. decided to move out of a large one-story brick building which had served it as a warehouse. Tobacco, pound for pound, represents one of the most valuable commodities to be found in this country, and a building designed and constructed to protect it must of necessity do its job well. When we were called to Nashville to inspect the building as a possible new home for a printing company, we found a site which, with some changes, could be converted into as modern a printing plant as exists anywhere in the state, with plenty of unoccupied adjacent land for expansion, and a railroad siding which has since reduced the handling cost of raw paper stock about 90%.

A number of Cullom & Ghertner Co. plant views are shown in the accompanying illustrations. The gross annual business of the company has doubled about every five years since 1938, and it is alto-

The Baughman Co., *Printers, Richmond, Va., is housed in this one story plant. Firm specializes in business form and fine process color printing. One floor equipment layout permits greater ease of manufacturing supervision. (See accompanying floor plan equipment layout.)*

gether possible that before long growing pains will set in again. When this does come about, the present buildings can be increased to about four times their present size on adjacent land.

Supervision is in Center of Plant

An accompanying diagram shows the plant layout of the Baughman Company, Richmond, Va., which moved into its new and larger quarters not long ago.

The Baughman Company enjoys the unique distinction of being at the same time one of the outstanding form printing companies in the South and a high-quality color printing plant. The new layout on a single floor provides a number of advantages for this rapidly growing concern not the least of which is greater ease of supervision.

Before the move, the possibility of carrying a single web and carbon from a single web machine into a double web machine so as to produce three webs plus three carbons had been considered. When the new layout was planned it was designed to line up the web presses so that they might be synchronized by a single overhead motor with chain drive and a single web carried right to the two web machine from the single web press. While it is altogether possible that the machines will never be operated in this manner, nothing has been sacrificed in other respects by placing the machines in this position. The layout of this plant indicates the storage space necessary in any plant operating high-speed web presses. It may be noted that this storage space is about equal to the entire manufacturing space.

Without making extended remarks, we want to call to your attention the central location of the plant manager's office. The office thus placed permits supervision with least effort on the part of the plant manager and also permits easy approach to the plant manager when any of the foremen may wish to consult with him.

Intermingling Is Beneficial

There are many factors which, while seemingly small on the face of them, should be given due consideration if for no other reason than that much can be gained through a little foresight.

We are all well aware of the biological balance which nature has achieved, for example, between the sexes. For the future welfare of our country a certain degree of intermingling is necessary. However, as far as possible such intermingling should be confined to areas outside the manufacturing plant. We have worked in shops where it was necessary for girl bindery operatives to walk through the composing room inhabited entirely by the opposite gender in order to reach the rest rooms provided for ladies. For each visit at least 4½ min. could be charged off the day for practically every compositor under the age of 65 (perhaps about 2½ min. for those who had attained this milestone).

General Guides for Building and Site Selection

In the case histories outlined above the importance of a large, well built building, above all else, has been stressed. There are, of course, other factors to consider in site selection, building or building conversion which the growing printing concern would do well to consider.

It is important to consider not only the dollar growth of the business as a guide in determining the area necessary for future operations, but the nature of the operation and changes that may take place in this respect.

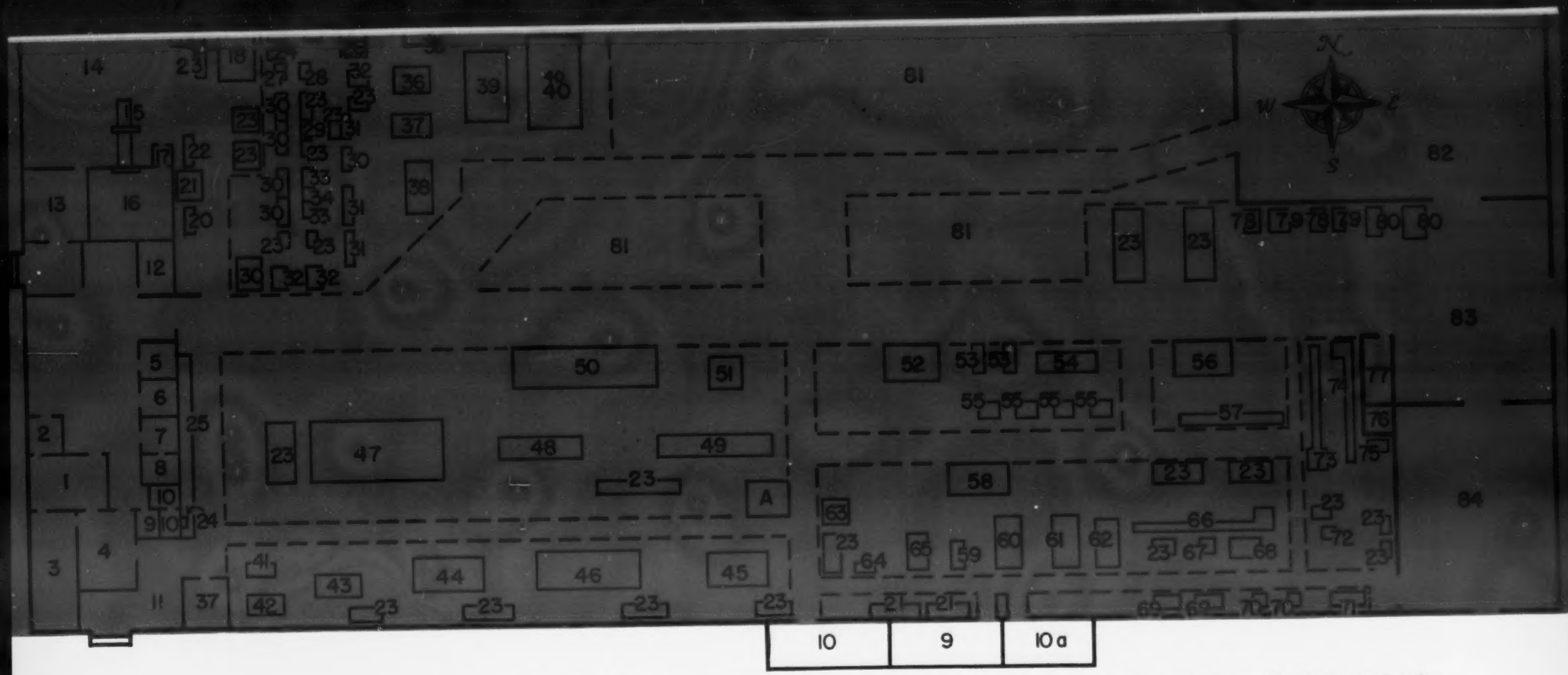
Several years ago, we were called to Atlanta to inspect a building on the outskirts of the city into which a printer was planning to move. The new building offered about twice as much area for manufacturing purposes as the overcrowded building which the printer was vacating, and on this basis, appeared to be adequate for its needs for some time to come. However, the printer was engaging in a new line of manufacture which promised to increase the annual dollar sales by about one-third. This new line involved the installation of a high-speed rotary press and collator, which could be easily accommodated on the new floor plan. What could not be accommodated, however, was the stock in rolls necessary to keep at least one month ahead of the press. Fortunately, there was an adjacent vacant lot next to the new building which the company might acquire. Our advice was to buy this lot and start at once on another building about equal in size to the original, since this proved to be the actual area necessary for the storage of paper stock in rolls.

Compromise—Perhaps!

As in all problems of engineering, we are faced with the necessity of compromise. All departments cannot be on the best side of the building. All departments cannot be closest to the administrative offices. In this matter of compromise, it is necessary, of course, to weigh one advantage against another and arrive at a plant layout which offers the best overall solution.

Materials Handling

Due to the rising cost of hand labor, it has become necessary to give more attention to mechanical means for materials handling. For this reason, any new building or conversion should be examined from the standpoint of installing over-



Floor Plan Equipment Layout, The Baughman Co., Richmond, Va. Firm Specializes in Color Process and Form Printing.

One of the noteworhy features of The Baughman Co. plant is that the Plant Manager's office is located centrally in the mechanical department. This location permits ease of supervision, both from the standpoint of the Manager as well as those supervisory executives who must contact the Manager.

At the time of planning the Baughman layout, provision was made for synchronized drive of two form presses (48 and 49) so that a single web machine could be carried into a double web machine to produce three webs plus three carbons.

Another noteworthy consideration is that in a plant like this where high speed web presses are operated the storage space necessary is about equal to the entire manufacturing space.

A—Plant office
1—President's office
2—Sales manager
3—Planning and purchasing
4—Production office
5—Estimating
6—Accounting
7—Office manager
8—Vault
9—Men
10—Women
10a—Women's dressing room
11—Employee entrance
12—Sales and accounting
13—Art department

Offset Platemaking:
14—Photo department
15—Camera
16—Darkroom
17—Light well entrance
18—Step and repeat machine
19—Supplies
20—Plate whirler
21—Sink
22—Vacuum frame
23—Table

Composing Section:
24—Monotype keyboard
25—Monotype casters
26—Linotype
27—Mitering machine
28—Saw-trimmer
29—Rubber plate machine
30—Type cabinets
31—Type storage
32—Imposing tables
33—Layout table
34—Desks

Letterpress Pressroom:
35—Job press
36—Miehle Vertical
37—12 in. by 18 in. Kluge
38—Miller Simplex
39—22 in. by 34 in. Babcock cylinder press
40—Babcock cylinder press

Offset-Rubber Plate Pressroom:
23—Table
41—Davidson two-color
42—Hoe jobber
43—Harris 17 in. by 22 in. offset
44—EBCo 22 in. by 34 in. offset
45—Harris 22 in. by 34 in. offset
46—Harris 36 in. by 48 in. offset
47—Harris 41 in. by 54 in. 4 color offset
48—Dutro Model A
49—Dutro Model B
50—Meisel rotary rubber plate press
51—Fanfold machine

Bindery Department:
9—Men's rest room
10—Women's rest room
10a—Women's dressing room
21—Sink
23—Table
52—Seybold 50 in. cutter
53—Mendes collator
54—ATF collator
55—Padding presses
56—Seybold 50 in. autospacer
57—Special collator
58—Brown 25 in. by 38 in. folder
59—Cleveland WWF folder
60—Cleveland B folder
61—Cleveland MS folder
62—Baum 25 in. by 38 in. folder
63—Syntron tilt-top jogger
64—Syntron 25 in. by 38 in. jogger table
65—Rosback 32 in. perforator
66—Christensen 5 station stitcher
67—Southworth round cornering machine
68—Seybold 4 spindle drill
69—Southworth punch
70—Acme stitcher
71—Brackett stripper
72—Crimping machine
73—Brackett trimmer and conveyor
74—Christensen 6 station stitcher
75—Book sewing machine
76—Power supply
77—Bindery and shipping office
78—Jogger
79—Gathering rack
80—Rosback perforator

Stock and Shipping:
81—Raw stock
82—Finished stores
83—Shipping area
84—Boiler room and maintenance

Full Length Mirror

Ample space should be provided for rest rooms, particularly in the case of female operatives. We have long contended, for example, that such a reasonable convenience as a full-length mirror in the rest room is a bargain in obtaining good employee relations.

head rail systems, ramps for power operated trucks, roller conveyors, etc.

Air Conditioning

Air conditioning, including humidifying and dehumidifying, are finally making the progress in our industry that is warranted by their benefits. Thermo cyclic heating and cooling of buildings by means of a near-by water supply may be nearer than we think.

Worker Welfare

It is hardly necessary in this enlightened era to point out that happy workers are generally more productive workers. During the recent war years many plants went to what appeared to be ridiculous extremes in the matter of worker welfare. Some superintendents must have wondered whether they were operating printing plants, the chief aim of which was to produce printing of high quality in satisfactory volume, or operating hotels or country clubs, the chief concern of which was the comfort and entertainment of the guest.

Consider These Factors

Nevertheless such factors as lighting, ventilation, noise and vibration control must be considered in the printing building. Ordinarily good office work and proofreading require a fairly quiet atmosphere. Locations for this type work should be removed as far as practicable from noisy machinery. The orthodox printing plant layout places composition and art work next to the office, with the pressroom next in line. This plant, of course, makes for satisfactory workflow, and it is usually advantageous if the building plans permit it. It has been customary, too, to group together equipment of a given type so that workmen may be shifted from one to another without loss of time, and that a foreman with a knowledge of only one type of equipment may be placed in charge of the group. A notable exception, of course, has been the placing of flat sheet cutters where one or more may be located at the receiving end of the plant for cutting full sheets for the press and others in the bindery for trimming.

This grouping of equipment in some rare instances is done on the basis of product manufactured rather than upon equipment type, production lines being established for the manufacture of a single item. Such grouping is effected to minimize the amount of materials handling between operations and frequently results in materially reduced costs because of the reduction in materials handling and the highly specialized skills attained by some of the operatives. In cases where competition has dictated a policy of new methods for the manufacture of a single item or group of items, wonders have been accomplished by setting up such special departments, the equipment of which embraces the entire span of the printing art from composition to bindery and shipping.

Work Between Operations

Any selection of a printing site or choice of building must allow for the optimum method of equipment grouping for the company. Such grouping may require air-conditioning in a single section of the plant where the product requires accurate register. In making allowance for such a section sufficient floor space should be provided for work between operations and a full day's supply of stock for the processing so that the section may be kept shut off from the rest of the plant which is not air-conditioned.

Avoid Pitfalls

In moving from one plant site to another there are many pitfalls which invite the unsuspecting step of the printer. There is a tendency for the printer who has his small presses crowded within less than 2 ft. of one another to place them up to 4 ft. apart. Such a layout not only makes it difficult for a single pressman to operate a pair of presses, but may result in considerable relocation of presses as new equipment is added.

In the layout of the plant possible future needs as well as immediate requirements must be allowed for. Let us suppose that the plant is operating two 35 in. by 45 in. offset presses and will sometime add a third. If space permits, in the pressroom, the two presses should be placed as closely together as convenience of operation permits, and a space set off beside them for a possible addition. It may be a wise move to put in the wiring for the third press at the same time the currently owned presses are being wired, even though its addition may be several years away.

Painted Aisles

Painted aisles will greatly facilitate the movement of materials in the plant, providing they are made not more than 4 ft. wide, and any permanent installation of equipment kept a foot beyond these limits. Where plenty of space is available there is a tendency to make aisles wider than actually required, in some cases as wide as 6 ft. An aisle that is much over 4 ft. soon becomes no aisle at all and is encroached upon by skids of material in work.

Air Conditioning and Window Space

At one time the tendency in factory building construction was towards increased window space, for natural light is cheapest and best. With air-conditioning, however, too many exposures increase the cost of maintaining the desired working conditions and plants are now being constructed in many cases with a minimum of windows. The single story saw tooth roof building possesses some advantages over multiple stories, but except where the loads handled in all phases of manufacturing are heavy or bulky, the multi-storied building offers compactness and actually presents in some cases a more workable arrangement.

Four Walls and Reasonably High Ceiling

With four good walls and a reasonably high ceiling a near ideal printing plant layout can be attained in almost any building of average dimensions, providing supporting columns are not too close together. A flour mill, a tobacco warehouse, it matters little the original purpose for which the building was designed. The printing industry generally is one of small units, also one that is constantly changing. There is little to be gained in building around a given floor plan which may be completely changed within a ten-year period.

Consider Building First

In building, or selecting a building to house a commercial printing plant, the main consideration is the general sturdiness and proportions of the building rather than any specialized requirements. In printing production as in any other manufacturing process we must look for a certain degree of compactness to minimize the distance the product has to travel in process of manufacture, good light and ventilation, noise reduction, general accessibility to established lines of transportation, proximity to a main railroad line (preferably with a railroad siding so as to minimize handling of incoming raw materials). If these are attainable in reasonable degree the workability of the plant itself depends largely upon the layout of the various departments within the four walls of the building.

Plan for Two Sizes Too Large

Above all it is necessary to remember always that a printing plant is something like a 12-year old boy in that it is usually wise to obtain his apparel about two sizes too large. Whenever we have moved a plant into larger quarters and when the dust has settled down and we appear to have emerged from the chaos of transplanting, we have been moved to predict "we have tried to provide for everything but we are pretty sure that within five years we are going to go through most of this all over again." This is simply a sign of healthy American growth—also it is a good healthy state of affairs for the printing plant consultant.

Here is shown mailroom 1799 sq. ft. loading dock, with distributing belt conveyors sheltered by marquee at Baltimore Sunpapers. Twenty delivery trucks can be lined up for loading editions and quick getaway. An additional 20 waiting trucks can be lined up in parking area at left.

Materials Handling Methods at The Baltimore Sunpapers

EFFICIENT materials handling is an important objective in any printing plant. In fact, a printing management executive recently remarked to *Printing Equipment Engineer* that about the only avenue now left open in which management can make production savings in the mechanized handling of materials and work in process. Whether or not this statement is factual, we prefer to believe that pursuit of ways and means for providing mechanized or automatic materials handling is a worthy objective in any printing plant. Reduction of manufacturing costs through work simplification, suggestion boxes, employee good will, etc. are too important to attempt to discuss them in one short article. In this article will be discussed some of the interesting materials handling means and methods used in the plant of The Baltimore Sunpapers (morning, evening and Sunday) published by The A. S. Abell Co. Baltimore, Md. This refers to handling stereotype plates, newsprint rolls, the mailroom operation and paper delivery truck systems.

Publication of a daily newspaper is a complex mechanical process, the difficulties of which are multiplied by the need for speed. It is no small undertaking to combine one raw material, which is news and advertising, with another raw material which is the kind of paper called newsprint, at stated hours many times a day and deliver the combined product to hundreds and thousands of individual consumers at precisely the time when they expect it.

The production plant which The Sunpapers occupy embodies the best suggestions of competent newspaper makers all over the country, plus the best technical equipment available for all the mechanical departments, plus, finally, the skill of able architects, engineers and builders.

In the newspaper building, with its extensive paper storage facilities, provision was made for an additional floor on the main edifice.

There are five main floors, each containing approx. 25,000 sq. ft. of floor space, and a much larger basement. The tower which dominates the mass is not really a tower at all but rather a kind of penthouse containing the machinery for the three elevators and the equipment of air-conditioning the whole building.

At Edge of Main Business District

The Sunpapers plant lies on the edge, rather than in the center, of Baltimore's main business district. This means that the raw newsprint does not have to be hauled through the busiest streets of the town. On the contrary, the 50,000 T. of paper used annually are delivered to *The Sun's* own six-car railroad siding on the premises and moved by an ingenious conveyor into the storage rooms. When the newsprint has been processed, which is to say when the papers have been printed on it, the bundles will be loaded on trucks parked on *The Sun's* own property and sent off through the city and its suburbs without having to pass through the congested downtown streets. Only those papers destined for sale in the business district will be routed there.

The mechanical problem of producing a newspaper is to combine, in the most effective and efficient fashion, the two main raw materials, the words and pictures to be printed and the newsprint on which the printing is done. In *The Sunpapers'* building, to express the process in the simplest terms, the words and pictures come in at the top and the newsprint comes in at the bottom.

We are indebted to Donald Patterson, Production Mgr. of The Sunpapers for permission to use considerable of the data in this article originally published by The Sunpapers in a copyrighted booklet at the time of moving into the company's new building, as well as the photographs from which the illustrations were engraved. We are also indebted to Howard Jampol of The Jampol Co., Inc., for additional information incorporated in the article.

Molded Mats Dropped into Gravity Chutes

The page forms are molded adjacent to and on the composing room floor. After the mat has been molded from the page form, the stereotyper drops it into a

slot and it falls by gravity to the first floor, where is located the stereotype foundry.

Plates are cast in any of four Wood Automatic Autoplate machines. Connected with each of the Autoplates is an Autoshaver.

Stereo Foundry

When an edition is going to press, the molded page mats are dropped down the chute in a steady stream to the stereo foundry. The casting, trimming and cooling of plates goes on at a rate to make the observer dizzy. But the process is a smooth one, nevertheless, and the men who operate it seem never to be ruffled. Maximum capacity of the stereotype casting equipment is 20 plates per min.

A rolling conveyor flush with the floor transports the plates to their destination in the pressroom adjoining.

The Press Battery

Printing presses, of whatever size, have a fascination for almost everyone. Modern newspaper presses are so large and so complex and work at such speeds that they are almost awe-inspring.

Linear dimensions of *The Sun's* pressroom are 175 ft. x 100 ft. The battery of presses is made up of 32 units arranged in two lines of 16 each. Each line is 138 ft. long. Space has been provided for an additional 16 units should future growth of Baltimore require them. Each of the units can be converted for color printing when needed.

The presses can be prepared to print an almost infinite variety of page and section combinations. If all 32 units were to operate on a single edition, each set of eight units would deliver 50,000 copies of a 64 page paper per hr., or 200,000 in all.

Newsprint Roll Handling

The pressroom is three stories in height. The lowest level, probably better called the basement, adjoins the storage room for which extends beyond the main walls of the building. When the 1800 lb. rolls are taken from the freight cars on the siding near Guilford Ave., they move easily onto the Jampol conveyor. The 350 ft. conveyor takes them underground and delivers them to the storage room, where electrically operated lift trucks take over and deposit them on end. The capacity of the storage room is 3000 T., or enough for three to four weeks at average consumption. Modern newspapers have a vast appetite for newsprint.

When the time comes to make the presses ready for an edition, the newsprint rolls are moved on dollies rolling on tracks set in the floor on the lower level. After delivering to the press, the rolls are lifted by rotation of the reels from the dollies.

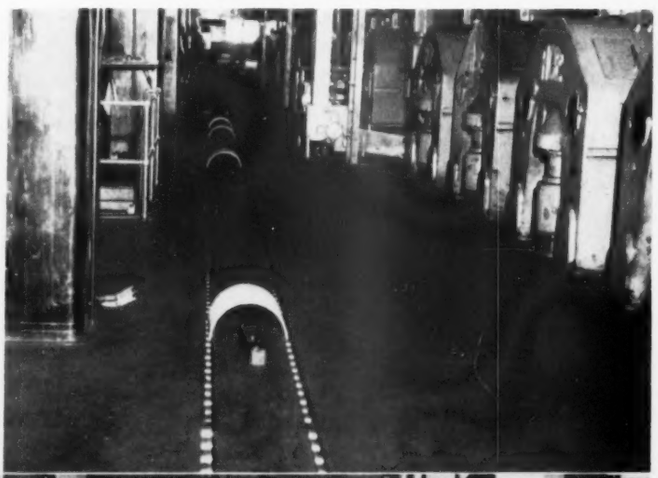
Mailroom Operation

As the folded papers emerge from the presses, materials handling or work in process again enters the picture. The pages are delivered in a constant stream by Cutler-Hammer conveyors to the mail room which is on the third floor just above the presses. These ingenious conveyors carry the rushing stream of papers (depending upon the number of pages in the paper) at the rate of 200,000 an hr. up through the floor to the mailroom.

Distribution System

Here it is necessary to visualize precisely what the problem is. Hundreds of thousands of subscribers, each living in a separate residence, are scattered over an area of many hundreds of square miles. Each expects his particular paper to be delivered to him at approx. the same moment every day. The function of the mailroom is to sub-divide, wrap and label the proper number of papers and deliver them in the proper order to the proper trucks, so that they may be transported swiftly to the proper carriers who, in turn, must deliver them individually to the proper families.

The method by which all this can be done in a few minutes, while the presses are running for any given edition, has evolved slowly over the years. The system



At upper right is a view in pressroom between press lines at Baltimore Sunpapers plant. The Jampol conveyor is shown bringing stereotype plates to the press units. Floor is covered with double Feralun non-slip plates. Stereotype plates move ahead at a speed of approx. 200 ft. per min.

At lower left is section of Baltimore Sunpapers Stereotype Dept. showing Jampol Abrasive Impregnated Non-slip Feralun Floor and Plate Conveyor. Plates are sent to the pressroom from the Autoplates and after the run has been completed, are returned to the Stereotype Dept. without manual handling.

Lower right: Baltimore Sunpapers Stereotype Dept. showing two of four Autoplate Stereotype Plate Casting and Shaving Machines. Takeoff from Autoshavers is 20 finished stereotype plates per min. Once the plate enters an Autoshaver it is not touched manually again until it has reached the pressline and is ready to be put on the press plate cylinder. An automatic timing or spacing device is used on the plate conveyor tracks emerging from the four Autoshavers to prevent jamming or collision.

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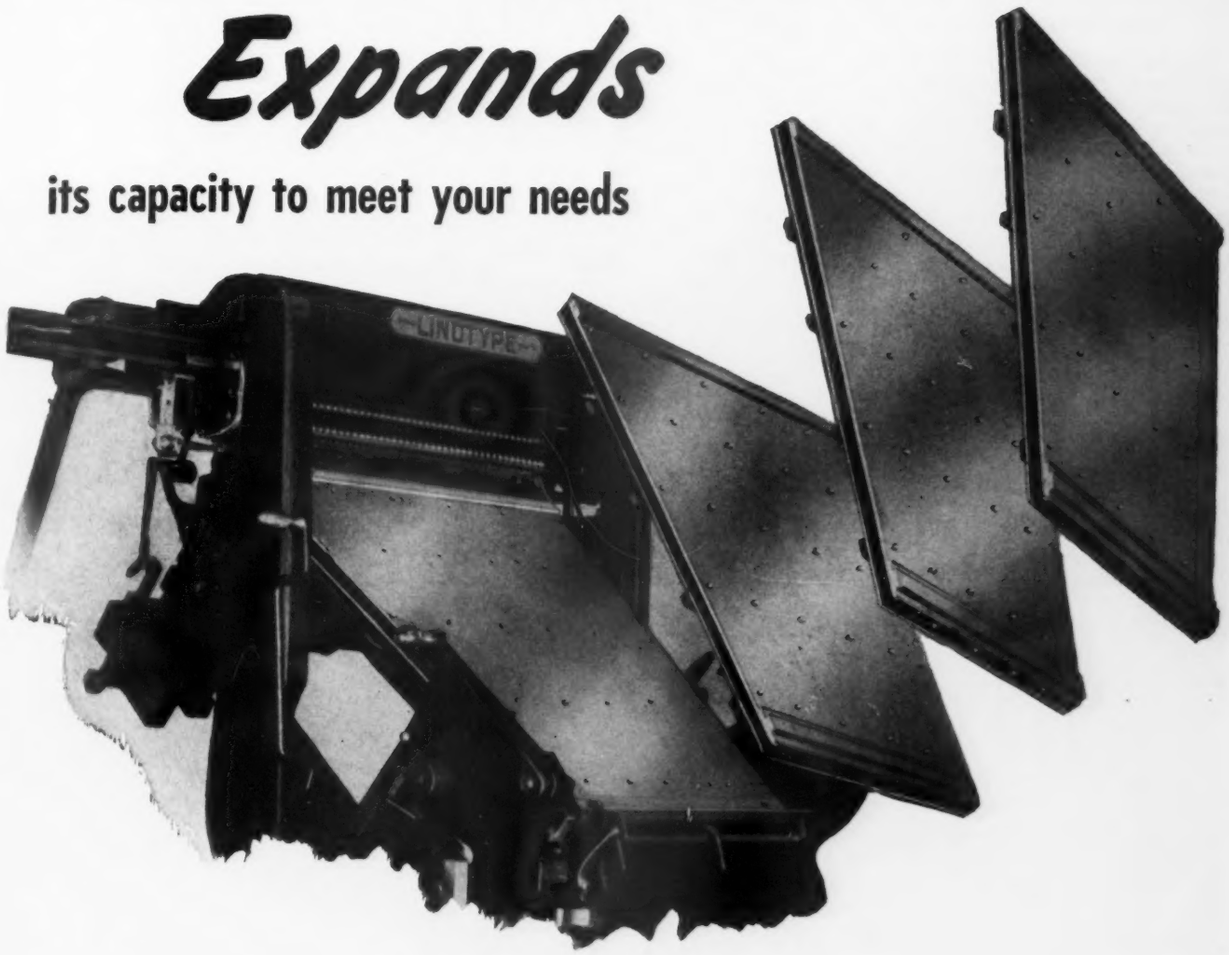
its capacity to meet your needs



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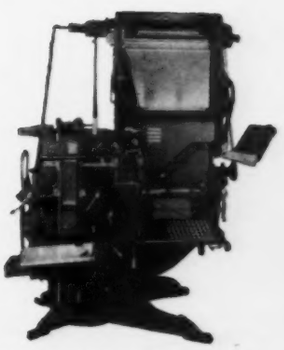

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used at *The Sun* is usually considered by other newspapers to be a particularly successful one.

Mail Composing Room

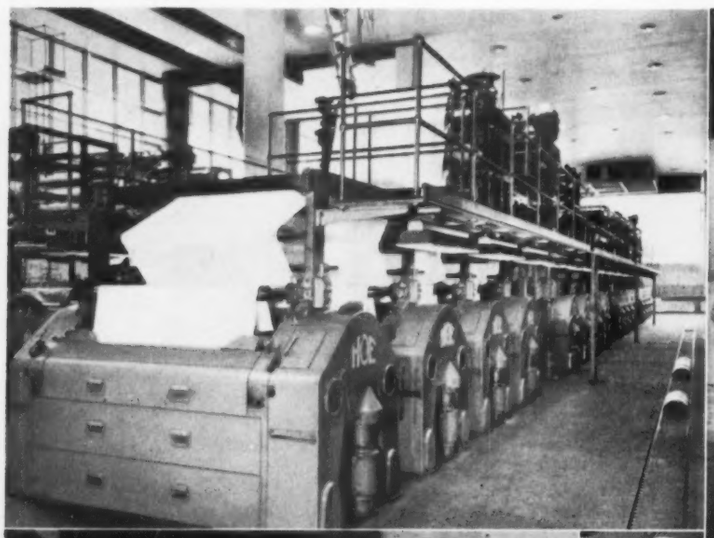
The core of this system is a sub-department called the mail composing room. In the new building a special space is set aside for it on the fourth floor near the mailroom. This department is the custodian of the three master lists of the distribution system. The first of these is the list of the individual out-of-town subscribers who elect to get their papers by United States mail. The second is the list of wholesalers and distributors who receive papers in bulk and sell them in smaller packages to other dealers, such as newsstands and drugstores. The final and by far the largest list is that of the regular *Sunpapers'* carriers.

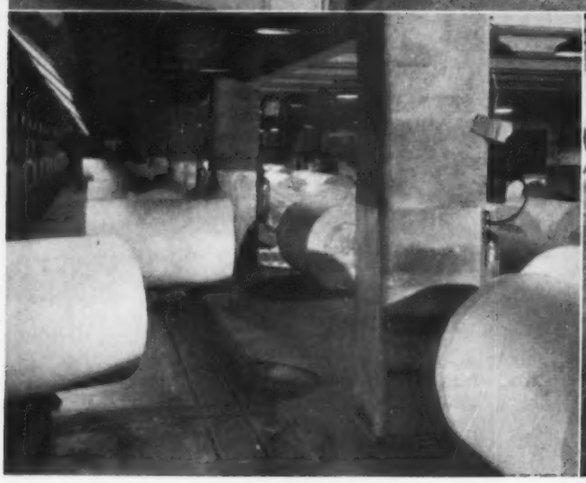
These lists are kept on metal plates. They are changed as frequently as the need arises. New Names can be added in a matter of minutes to the list of mail subscribers. Similarly, corrections can be made in the notation as to the order or "draw" of each carrier and dealer. It is the job of the staff of the mail composing room to keep all these lists up to date and available for use.

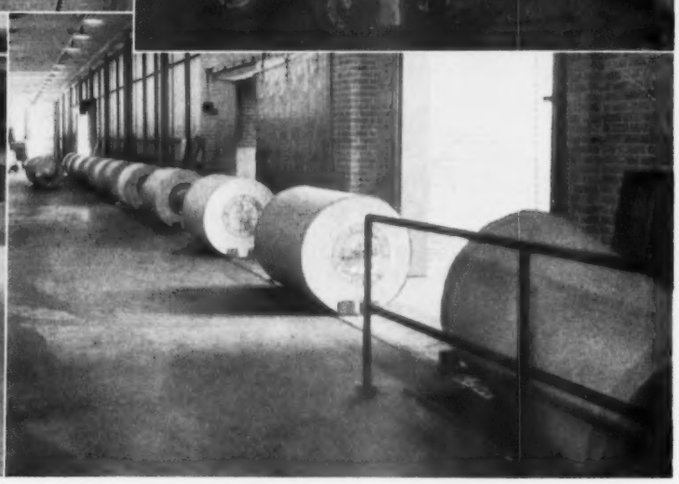
When edition time approaches, a machine runs off the lists from the metal plates onto strips of paper. In the mailroom itself, at tables especially designed for such work, the individual address tag or label is cut and pasted on a piece of wrapping paper by another machine.

The Carrier's Route

The printed label for a bundle carries delivery information. The small number is that of the carrier's or route owner's





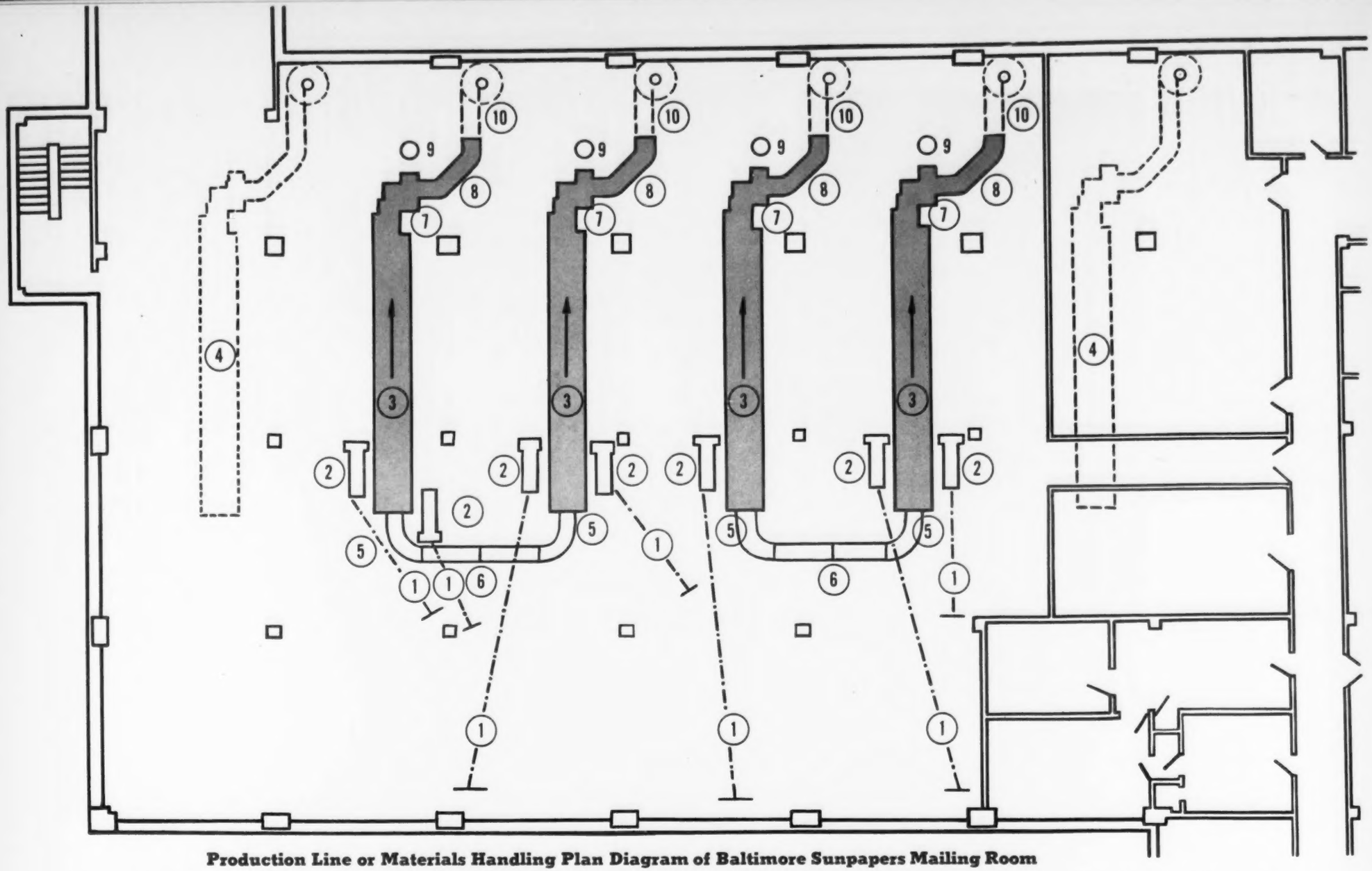


Here at upper left is shown one of the two 16 unit Hoe printing press lines (32 units) in pressroom of the Baltimore Sunpapers. The presses are operated to produce 40,000 average size newspapers per hr. Note the Jampol plate conveyor system track in floor at right. Plates are sent from stereotype department to pressroom. After a run is finished, the used plates are returned to the stereotype department. The Feralun floor is of the non-slip type.

View in press reel room (lower right) of Baltimore Sunpapers. The newsprint rolls are brought on dollies to the press reels from temporary storage on same floor to the reels by Jampol Abrasive Impregnated Feralun track, which is fitted at strategic points with switches and turntables. Floor plates consist of same non-slip material. The rolls are laid upon dollies and are manually propelled to destination, after which the wrappers are removed and they are mounted on the press reel spiders (three rolls per reel).

With this Elwell-Parker electric truck (upper right picture) the operator can handle 1800 lb. newsprint rolls with ease. Suitable controls enables the operator to cause the grabbing device to grasp the roll without injury to the paper, he can also rotate the roll to bring it to vertical position, while elevating the roll to stacking position in temporary storage.

At lower right is an interesting picture related to the handling of the many 1800 lb. bulky but easily damaged newsprint rolls used daily at the Baltimore Sunpapers. The newsprint conveyor system is approx. 470 ft. long and extends from the railroad car unloading point to temporary storage room on the floor below. As the rolls travel along the conveyor belt at 45 ft. per min., they are kept separated during peak loading by projecting cleats spaced approx. 9 ft. apart. Max. conveyor capacity is 300 rolls per hr. untouched by human hands. The rolls are unloaded from truck or freight car by electric truck and placed on the conveyor. Likewise when the rolls reach their destination in the temporary newsprint storage room at the press reel room level they are transported from conveyor to storage by electric truck.



Production Line or Materials Handling Plan Diagram of Baltimore Sunpapers Mailing Room

Through this mailroom pass on the average in excess of 393,786 newspapers every day, and in excess of 308,569 copies of the *Sunday Sun*. The automatic conveying equipment for bringing the newspapers as they come from the presses together with the bundling, tying, and chute and platform distributing equipment, represents rapidity in materials handling without too much physical exertion on the part of the mailing crews. Total floor area of this mailroom is 17,020 sq. ft. The Sunpapers mailroom was engineered and installed by The Jampol Co., Inc. Equipment shown in this diagram is identified as follows:

1—Cutler-Hammer Conveyors from presses below.
2—Cutler-Hammer Conveyor Delivery Tables.
3—Feeder Conveyors.
4—Future Feeder Conveyor, Tying Machine and Spiral Chute Equipment.
5—Power Curve Conveyors.
6—Hinged Conveyor Sections.
7—Wire Bundle Tying Machines.
8—Chute from Tying Machines to Spiral Chutes.
9—Wire Reel Supply Racks for Tying Machines.
10—Spiral Chutes to Loading Dock.

route. The large number tells how many papers are to be included in the bundles. The street location given is the point to which the bundles are to be delivered. Each carrier has, of course, several points on his route to which his bundles must be hauled.

The men working at the long delivery tables in the mailroom have piles of wrapping paper ready on other tables beside them. The address label is already affixed, on each piece of paper. The order in which they are arranged is important.

Counting Papers for Bundles

The mailroom worker stands at one one of the long tables to which the Cutler-Hammer conveyors are delivering their rushing stream of papers. Fortunately for him, they are automatically divided into lots of fifty. He glances quickly at the top wrapper beside him. It notes that the order must contain 248 papers. That is five lots of fifty less two. So he places the address wrapper on the first bundle of fifty and it moves along. On the succeeding four bundles, he places a plain wrapper. From the fifth he removes two papers and places them on an odd-lot pile on another table. Thus the final bundle in this lot contains only forty-eight. All these bundles follow their leader to the wiretying machine where they are bound with soft wire and delivered into the spiral chute.

The order in which the bundles are dropped into the spiral chute is important.

Loading the Bundles

At the bottom of each chute lies the loading platform with the distributing belt conveyors. The platform parallels the railroad siding on which the newsprint is delivered, but it is separated from the siding by a broad private avenue. This avenue, which runs the whole north-south length of the property, is 60 ft. wide, or about like a city street. The loading platform which faces on it is long enough so that 20 delivery trucks can be backed up against it at one time. The avenue's breadth enables the drivers to move the trucks in and out without interfering with one another. At each edition time, whether during the day or night, the trucks back up to the platform in advance to await their loads.

The bundles are placed in the truck in the order in which they came down the chute, an order which was first determined in the mail composing room by the sequence of labels. affixed to the bundle wrappers.

When the loading is complete, the truck starts off. The driver has a route which he knows intimately. He also knows that the first bundle, immediately behind his seat, together with the unlabeled ones which follow it, is to be dropped off at his first stop, the second lot at the second stop and so on. He doesn't have to bother to read the labels. So each stop is but a second or two.

After the bundles for a certain street corner or location have been dropped by the truck driver the responsibility from now on rests with *The Sun* route owner (carrier in ordinary parlance) who has directed that some of his papers he delivered to the corner where the truck dropped them. The route owner or one of his assistants, a sub-carrier, takes the bundle, cuts the wire and, from a list which he probably knows by heart, begins door to door distribution of papers.

Improved Copper Plating Solution

(Printed by courtesy of Lithographic Technical Foundation, Inc.)

Some time ago, LFT released a formula for a solution that would copper plate the steel rollers in a press inking system and prevent stripping. Additional work done since the publication of that article has shown that a modification of the original solution does an even better job. Here is LTF's new formula:

LTF Copper Plating Solution

	Metric Units	U. S. Units
Isopropyl Alcohol, 98%	450 cc.	15¼ liq. oz.
Ethylene Glycol	450 cc.	15¼ liq. oz.
Hydrochloric Acid (concentrated)	42 cc.	1½ liq. oz.
Cuprous Chloride ($CuCl_2$)	30 grams	1 avoir. oz.

This formula calls for twice as much acid and cuprous chloride as the original.

Have you tried this method of preventing stripping? It's easy. After a thorough press wash-up, you just pour on the coppering solution. In a few minutes the steel rollers are plated. The treatment takes only a few extra minutes about twice a week, yet it can save hours of down-time correcting stripped rollers. It's especially easy if you use the three solution wash-up method.

General view in the mailroom of Baltimore Sunpapers. At right is shown one of the seven Cutler-Hammer Conveyor Delivery Tables where papers are delivered from presses to the mailroom in a continuous stream. The papers are lifted manually in convenient stacks from the tables and are placed on the Jampol Feeder Conveyors in selected quantities (such as 50 papers). They then are conveyed directly to the wire tying machines. These Jampol Conveyors are reversible for routing papers to another machine in case one of the wire machine breaks down.

View in section of mailroom in Baltimore Sunpapers shows one of four Signode Parker Wire Tying Machines. The machine automatically ties stacks of papers with wire into bundles of 50 or any selected number of newspapers at an average speed of 16 bundles per min. At left of wire tying machine the Jampol Feeder Conveyor (one of four) is bringing newspaper stacks to the wire tying machine. In background is shown one of the Cutler-Hammer conveyors from pressroom.

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The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

XXI—DOT ETCHERS MUST THINK

(Continued)

BECAUSE of its continuation and as an introduction to our discourse on color, let's dig up last month's issue of *Printing Equipment Engineer*. Chap. XX was concluded with Factor 4. Now let us move on to

Factor 5—Viewing Distance

A large corporation spends thousands of dollars to conduct a sales campaign. This money may be apportioned to include outdoor advertising, point of purchase, window displays, counter cards, mailing pieces, folders, brochures, blotters and car cards, in addition to magazines and newspaper presentation.

Most often a single piece of art is used to illustrate all of the different forms of publicity. This means that more than one process of reproduction is employed. If we are observant, we will see that in most instances this selfsame illustration in its several forms of reproduction, differs one from another. Not in size alone, but colorwise.

Our visual perception of the illustrated 24 sheet poster at a distance of 50 ft. is different from viewing a similar reproduction on a counter card at 10 ft., or a car card at 4 ft. A mailing piece compared to magazine and newspaper reproductions of the same art work, are not the same when seen at a distance of 14 in.

To see or sense a similar color value in all sizes, equal to the norm of same size, may require either a solid or very strong tint at one extreme, while at the other extreme, the value will have to be reduced, in printing the same color, if a similar tint value is to be obtained.

Factor 6—Color Percentage Ratios

Color percentage ratios has to do with the printing of more than one color of the same family or group, *i.e.*, red and pink. The red being used may be a base color of specific concentration and the pink may be the same color reduced or extended 70% to a tint value comparable to 30%, by halftone reproduction of the base color.

Some operators hold to the belief that a solid pink overprinting a solid red will make the red color darker. This is an erroneous idea. If a solid pink color is overprinted by a halftone tint of the base red, the pink will be strengthened and be made redder in proportion to the percentage of red being overprinted. This holds true in all instances where a light and dark color of the same family or color group is run on the same job, *i.e.*, light blue and dark blue or black and gray.

Halftone Reproduction Color Values

In Chap. XX, halftone effects have been shown and demonstrated. This subject is one phase of offset that must be thoroughly understood in order to know its effects on color and color reproduction.

Color is a study in itself, but can be a subject fraught with fears, misconceptions and doubts to the dot etcher and color correctionist. Much of this is due to the lack of color knowledge on the part of the creative artist, ad man, buyer and user of color printing.

The overwhelming fear of most dot etchers is the first color down, *i.e.*, the yellow. This one color is feared more than any other in the spectrum and is the most confusing.

The range of color value between chrome, lemon, primrose and standard offset yellow is tremendous. Much depends upon the selection of this vital color in the pre-estimation of desired results in the finished job. A predetermination of this color may require special mixing of certain hues in order to obtain the proper tint or shade to suit the job.

A printed chrome yellow may look fine until it is overprinted by a process blue, then, flooey!, the job is finished. Yes, loused up completely. Instead of the nice clean greens that were expected, the colors come out as dirty olive drab. Once the job is ruined by using the wrong yellow, there is little to be done to correct the job, except to run it over.

That's one reason why this color is feared so much.

Running tints of the other heavier colors, reds and blues, the operator or etcher is beset with extreme doubt as to the correct halftone percentage to run. Unless a workman has the experience,

Above is illustration showing 35 obsolete gallery process cameras recently traded in to Consolidated for modern camera equipment. Below the cameras are being consumed by flames. Obsolete equipment cannot compete with modern working tools.

A Graphic Story Concerning Obsolescence — Consolidated Photo Engravers and Lithographers Equipment Co. has put the torch to 35 Gallery Process Cameras, some as old as 50 years, that were traded in recently for modern all-metal Precision Darkroom Cameras. Together, these cameras represented 1000 years of faithful service. Today, however, they would be a drain on any business where modern equipment on which could be produced from 200% to 300% more production is available.

Consolidated has taken this means to impress upon the industry that obsolescence creates plant operating losses. It is now time to put the ax or torch to obsolete equipment and replace it with modern equipment with which you can increase production.

Benjamin Sugarman, President of Consolidated, said it was difficult to put the torch to these cameras for which he used to get from $300 to $600 each, but facts and figures proved that in effect these sales were not in the best interest of the industry nor the customers who purchased them. Over $15,000 in potential camera sales went up in smoke, but 35 prospective customers were not going to pay for obsolescence and try to compete with modernly-equipped plants.

For Maximum Reproduction Qualities...

BEVERIDGE MATS

Excellent reproduction and accurate shrinkage are the greatest problems facing newspapers today. Stereotypers are being called upon to exert their maximum skills to meet shrinkage requirements, and maintain maximum reproduction qualities. BEVERIDGE MATS in all sizes for curved newspaper work, multi-cast work and commercial flat work are best for uniform and dependable results. If you are not using BEVERIDGE MATS, we suggest you try them immediately. Send us your page form size and shrinkage requirements and let us ship you an order. We guarantee that you will find them giving the maximum in clean-cut reproduction.

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he will invariably play all tints on the light side.

What Percentage to Use

One of the most difficult things for anyone to do, is to convey a mental image of a specific color, shade or tint to another individual, either verbally or by the printed word. It is equally difficult to specify a certain halftone perdentage of a specific shade or tint of color, where a definite color effect is desired.

As a help to retouchers, dot etchers and correctionists it has been suggested previously that sample sheets of color reproductions, and ink books should be always available for reference. This kind of reference material should not be taken lightly and by the same token, should not be relied upon entirely, nor be accepted as face value.

If we have studied the comparative charts Fig. 12 and Fig. 13 in Chap. XX, we will recall that the illustrated 50% halftone tint takes on several different values whenever the halftone screen ruling changes. Hence, the need for close attention to comparatives. Panel 1 of Fig. 12, Chap. XX, shows clearly that a 50% tint is not always 50%.

In order to accurately match any color indicated on a sample reproduction, (via the halftone process) it is necessary that the printed tint values be matched in exactly the same screen ruling in the new reproduction.

If the screen rulings differ, then some compensation must be made between the screen rulings, dot sizes and the color to be printed, should exact duplication be a requirement.

In the accompanying chart, Fig. 14, is demonstrated in decimal equivalents, the perceptible percentage of a base color when a tint of that color is to be printed in a halftone value of specific percentage, in the same reproduction.

Legend—Top row across is solid color, progressively reduced from a solid base (1.00) to a tint of 10% value.

The first vertical row to the left is a graduated gray scale printed in halftone of specific screen ruling.

Figures in tint squares are decimal percentages of the base color in Col. 1.

Examples:

40% of halftone tint in Col. 8 is 6/100 of base color, 1.00.

(*Continued on Page 128*)

BASE COLOR {BASE COLOR TINTS—PROGRESSIVELY REDUCED}

HALFTONE TINT VALUES

HALFTONE TINTS OF REDUCED COLOR

SOLID	POTENT 90%	ROBUST 80%	STRONG 70%	HEAVY 60%	MEDIUM 50%	LIGHT 40%	WEAK 30%	PALE 20%	ANEMIC 10%	SOLID
90%	.80	.70	.60	.50	.40	.30	.20	.10	.09	90%
80%	.70	.60	.50	.40	.30	.20	.10	.09	.08	80%
70%	.60	.50	.40	.30	.20	.10	.09	.08	.07	70%
60%	.50	.40	.30	.20	.10	.09	.08	.07	.06	60%
50%	.40	.30	.20	.10	.09	.08	.07	.06	.05	50%
40%	.30	.20	.10	.09	.08	.07	.06	.05	.04	40%
30%	.20	.10	.09	.08	.07	.06	.05	.04	.03	30%
20%	.10	.09	.08	.07	.06	.05	.04	.03	.02	20%
10%	.09	.08	.07	.06	.05	.04	.03	.02	.01	10%

BASE COLOR {DECIMAL PERCENTAGES OF BASE COLOR}

Fig. 14

*50 Million daily readers

...that's a lot of people, or readers...about one-third the population of the entire United States. Yet that's approximately the number of people who daily sit down and read a newspaper printed on presses **electrically powered and controlled by Cline-Westinghouse Equipment.**

Considering the competitive manufacturers in the field such a proportion is a significant endorsement of Cline.

* From statistics of Editor & Publisher and Standard Rate and Data using an average of 2 readers per newspaper.

Cline-Westinghouse

Drives and Controls

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Los Angeles 17, California • New York 17, N. Y

Paper Properties as Related to Printability

By WILLIAM H. BUREAU*
*Butler Paper Corporations, Chicago.

Part VII—CHEMICAL CONSIDERATIONS

IN ALL previous chapters in this series we have considered paper properties of a more physical nature. This time we shall concentrate on chemical properties pertaining only to printing and not those involved for example to give permanency, functional properties, etc.

Within the last decade the two-lettered symbol pH has been more commonly used in the printing industry, particularly so in the lithographic field. What is pH? It is not easy to define without talking in terms of chemistry. Rather then, suppose we shall consider what pH tells us. Most substances, including paper, when dissolved in water are, chemically speaking, either acidic, alkaline or neutral. The pH scale tells us, first, whether something is acidic or alkaline and next, to what degree it is acidic or alkaline.

Suppose we look at pH another way. To measure the intensity of hotness or coldness of an object, we have a temperature scale. This temperature scale indicates the intensity or degree of hotness or coldness of an object and not the quantity. A thimble of ice can have the same temperature as an iceberg, but obviously there is a tremendous difference in the quantities of coldness represented in the two cases. This analogy applies to pH, which is a scale for representing the intensity of acidity or alkalinity. Again, a thimble of acid can have the same pH as a barrel of the same acid. The actual quantities of acid are vastly different in these two cases and not expressed by pH.

A truly neutral solution has a pH of 7. An acid solution will have a number below 7 and, likewise, an alkaline solution will have a pH number above 7. The range of the pH scale is from 0 to 14 units.

The nature of this scale is such that each change of one pH unit doesn't represent an equal change throughout the range. To illustrate, an acid of pH 5 will be ten times stronger than one with pH 6. An acid of pH 4 will be 100 times stronger than an acid of pH 6. Further, an acid of pH 3 would be 1000 times stronger than an acid of pH 6, etc.

Measurement of pH

The pH of paper can sometimes be determined approximately by the spot test, whereby a drop of color indicator is placed on the paper surface previously moistened with distilled water. The color reaction obtained is matched with the closest color on the pH chart and the pH read from the chart. This method is not too accurate and in the case of coated papers can be misleading because of the possible wide differences in body stock and coating pH. The accurate and reliable method requires a water extraction of paper or coating and determination of the pH of the water extract using the pH meter.

pH of Paper

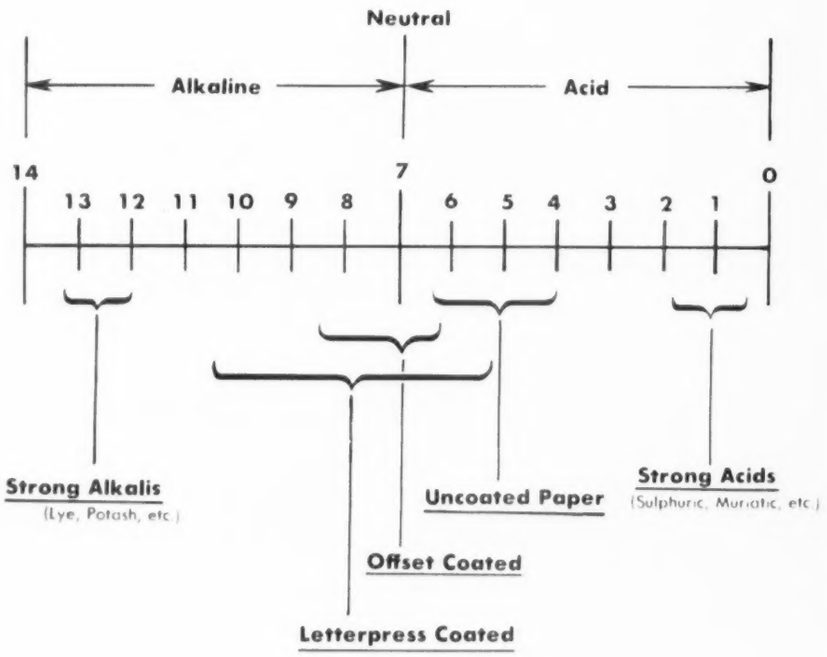
First consider all uncoated papers. The so-called hardsized papers such as bonds, ledgers, bristols, offset, covers, etc., are all sized in the beater using rosin size and some means of setting the size on the fiber, the latter usually being papermakers alum. Rosin is a very weak organic acid and alum is an acid salt. For that reason, all uncoated hardsized papers are slightly on the acid side and their pH usually falls between 5 and 6. Only filter, blotting and other waterleaf papers will approach a pH of 7.

Coated papers must be viewed somewhat differently. Although the body stock will have a pH less than 7, the actual printing surface, that is the coating, can and usually does have a pH of 7 or somewhat above 7. This results from the use of alkaline type pigments and alkaline dissolving agents for the adhesive in the coating. The pH of coated papers can vary from 6 to about 10 depending upon whether they are made for offset or letterpress printing. See Fig. 1 for the pH scale.

Significance of pH to Printer

Uncoated papers having a very low pH (below 4.5) can cause counter etching and scumming of an offset plate. Low pH has little effect upon the drying rate of letterpress inks except in very humid weather. But in offset printing, the presence of moisture in the ink results in low pH paper exerting a much greater retarding influence upon rate of drying. Remember that pH involves water. The combined effect of press moisture and high humidity represents a condition of maximum influence of low pH in retarding drying rate. Running the same job, ink and paper under conditions of low humidity and less press moisture would result in less influence of said paper upon drying rate. This can be one of the reasons why experiences of slowness of ink

(*Continued on Page 127*)



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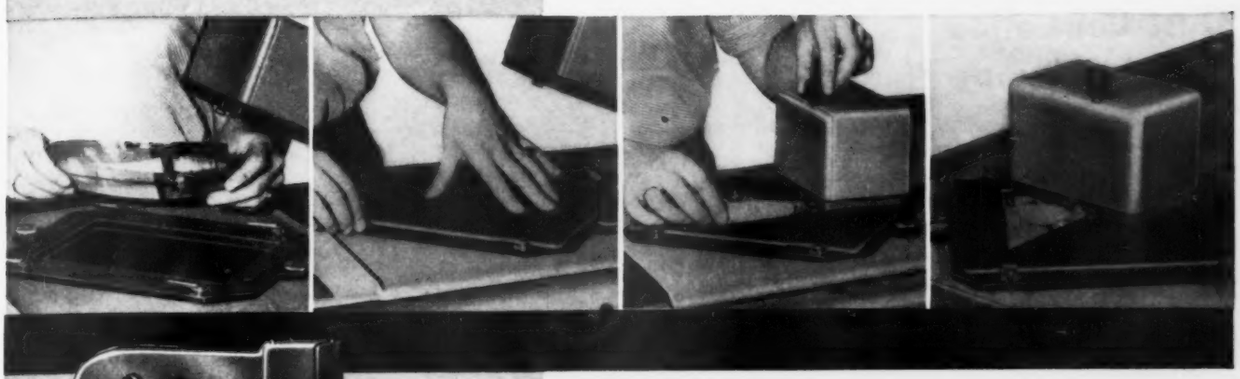

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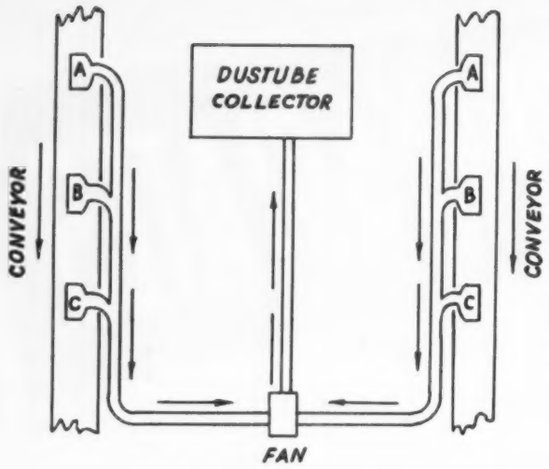


Fig. 1.—Schematic representation of bookbinding processing conveyor lines connected with a system for capturing the paper dust from the trimming, sanding and brushing operations. The letter *A* designates a saw-trimmer, *B* a belt sander and *C* a rotary brush cleaner, all equipment located on the conveyor line for performing various operations. The dust is exhausted through ducts from these stations to the centrally located Dustube collector.

Dust Controlled in Binding Plant

A PROBLEM common to printing plants is the tendency for dust conditions to be present. Cutting, trimming, sanding, brushing and other handling and manufacturing operations are paper dust producers.

Much of this dust is characterized by small size particles. Once it becomes dispersed in the air, it travels considerable distances before settling. This makes its effect felt virtually throughout the plant.

One method for controlling these conditions is by local exhaust ventilation. Hoods are located over the dust producing machinery, with ducts leading from them to a collecting unit.

Dust is Troublesome

One large book manufacturing company using this method is able control dust from the two bookbinding processing lines in its plant by means of one dust control system (Fig. 1). These lines formerly dispersed enough paper dust to be troublesome both inside and outside of the plant.

Each binding line has three stations (Fig. 2) which produce dust. The most is created at the first station, where a rotating saw blade trims the pages. A considerable amount of dust is also created at the second station on each line where a sanding belt takes the rough spots off the edges of the pages. The third station has a rotary brush to remove fine clinging dust.

System Misses Small Dust

The company installed hoods several years ago over the dust producing stations, and ducts leading from them to a collecting unit. The books were designed to suck air at high velocity to overcome air currents in the room tending to disperse the dust. This system proved to be only partially satisfactory because of the collector. While it was capable of doing a satisfactory job in collecting the heavier particles, too much of the smaller dust particles escaped.

A collector using tubular cloth filter bags to clean the air was installed. This step was taken because cloth filtration is claimed to remove fine dust particles.

A cloth-tube-type collector (Fig. 3) was put into service. It is claimed that about twice the amount of dust is trapped

(*Continued on Page 126*)

Consider the Color in Printing Papers

By M. S. KANTROWITZ, Chairman, Research Committee, Washington (D. C.) Club of Printing House Craftsmen, Inc.

Color in the paper and printing industries is considered chiefly from physical rather than psychological aspects. The basis of color is light consisting of waves which spread out from the source in all directions. The color of the sheet, therefore, depends upon its spectral reflectance as compared with a standard when illuminated with a specific illuminant and viewed under definite conditions. Paper is said to be white when it reflects light non-selectively and absorbs no color. Commercial white papers vary in shade such as blue-white, cream-white, natural-white, etc. They do not reflect all the components of white light in the same ratio.

In paper specifications, color is generally referred to simply as color such as white, green, blue, pink, buff, and must match a selected standard.

Variation in color of book paper, writing, bond and ledger papers is not only encountered among shipments from different contractors, but sometimes occurs within the same shipment. The difficulties which arise from variation in color of paper cannot be corrected or allowance made for such variation in the pressroom. On a long-run job, it is sometimes necessary to supply the pressroom with paper taken from different shipments. If the color of successive lots of paper differs somewhat during the press run and the ink remains the same, there will be a variation in the tone value of the printed page, since the ink formula and its tonal quality have previously been adjusted to the color of the paper first used. This objection becomes a very strong one when the paper deliveries cannot be segregated to individual jobs, but must be used in large edition runs.

Permanency of color is of paramount importance in cover paper and wrappers of merchandised products put up in packages of distinctive colors.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

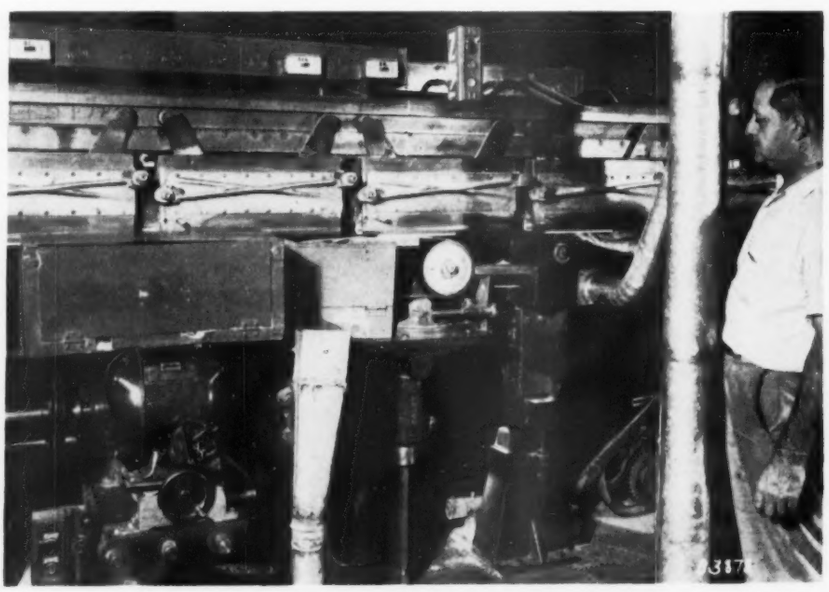
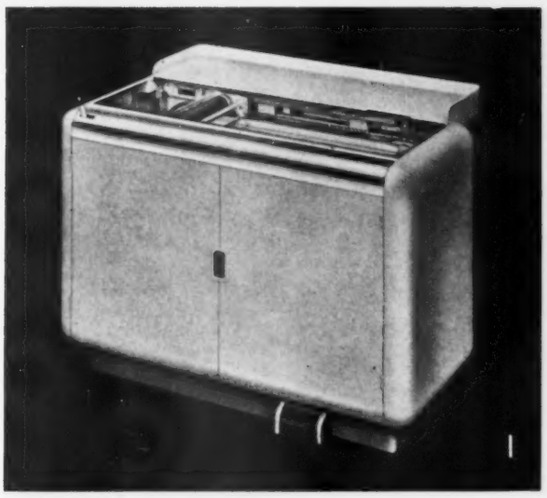
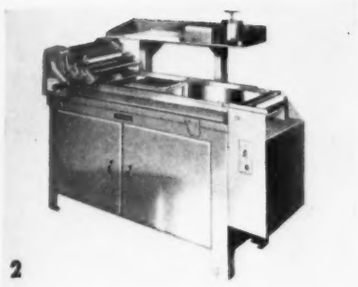


Fig. 2.—A close-up view of the three dust-producing stations on the bookbinding conveyor line. The rotating saw blade is located in the box-like hood directly above the motor housing at extreme left. The sanding belt may be seen in approximately the center of the picture, while the rotary brush is just to the left of the worker's right hand. Note the ventilating ducts which carry the dust away from these stations to the central dust collector.



1 *The* **Vandercook 23** *on the left is a high speed, power operated galley proof press that delivers up to 40 proofs a minute with absolute safety to operator. Positive action Safety Bar stops press instantly upon contact with operator's hand or any obstacle 1/16" above type high. Maximum Form up to 14" x 26".*



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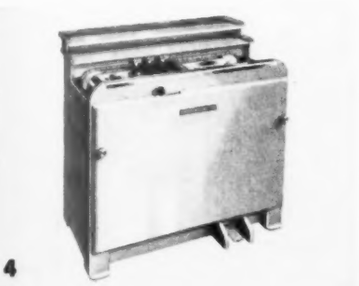

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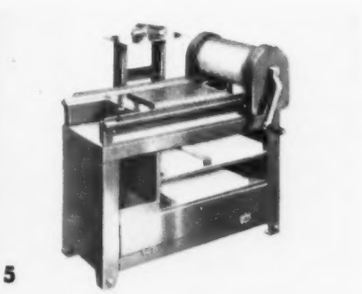

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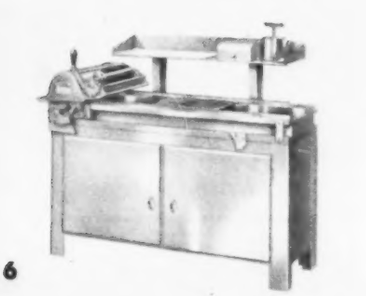

6

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With wages and over-all production costs as high as they are today, more and more plants are looking for methods and equipment that will help save time and effort of labor, as well as produce more per man per hour. They know, for example, that galley proofs barely legible enough to read cause delays. They have learned, too, that clean, sharp proofs produced on modern and efficient Vandercook galley proof presses save time and money because (1) such proofs are easier to read, (2) they reduce the chances of error in proofreading, and (3) they enable proofreaders to spot defective type characters and slugs. Besides, good proofs leave a much more favorable impression with the customer.

To help solve your galley proving problem, write for detailed information regarding the six efficient Vandercook Galley Proof Presses illustrated. They vary in size, in price, in design and operation sufficiently to fit the need of any composing room.

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GALLEY PROOF PRESSES ILLUSTRATED TO THE LEFT INCLUDE THE FOLLOWING:

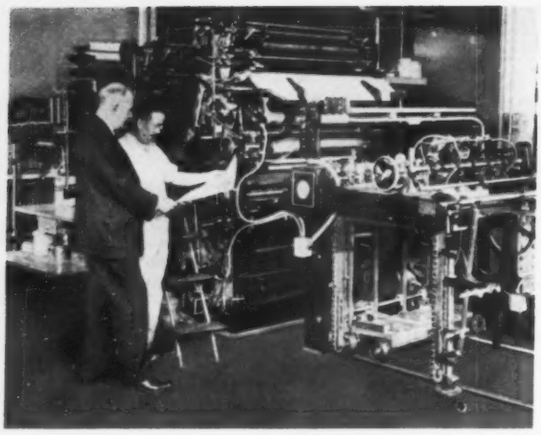
2 Vandercook 15—*with power ink distribution. Maximum Form 14" x 24".*

3 Vandercook 0—*with hand inking. Maximum Form 12½" x 25".*

4 Vandercook 22 "Economy Electric"—*completely power operated. Maximum Form 8" x 25½".*

5 Vandercook 14—*hand operated, with cylinder grippers. Maximum Form 16⅝" x 23¼".*

6 Vandercook 05—*with semi-automatic inking. Maximum Form 14" x 24".*



ATF-Mann Installation—National Blank Book Co., Holyoke, Mass., recently installed an ATF-Mann two-color offset press. The press will accommodate a 25½ in. by 36½ in. sheet. Pictured with the press are Richard M. Weiser (left), Vice Pres. in charge of manufacturing, and James O'Connor, Pressman, of National Blank Book.

Eliminates Lengthy Fountain Adjustments

UNLESS two jobs are practically identical it follows that there must be some adjustment of the ink fountain on a cylinder press to obtain proper distribution of ink on the form. The often used method of making adjustments that are felt to be needed and then running a sheet or two through to see takes up far too much time in many instances. James A. Bryant, Acting Pressroom Foreman of the Birmingham Printing Co., Birmingham, Ala., matches color quickly in a simple way.

He saves a sheet from the last job run on each cylinder. Then when the next job comes up, he lays out the sheet from the previous run, and compares it with the form on the press at the time. Where the form to be printed runs lighter it is an easy matter to tighten up the fountain in that part. On the other hand if some portions of the form to be run are much heavier than the corresponding portion of the last form run it is equally easy to open up that part of the fountain so as to furnish more ink.

Combination Shop

(Abstract from address delivered by H. A. Porter, Vice President, Harris-Seybold Co., before convention of National Association of Photo-Lithographers, Buffalo, N. Y., September 1951.)

For years I have believed in the combination shop and definitely believe that a great deal of the increase in lithography's volume has been due to the combination shop. Good management has recognized that all processes are complementary one to the other and should be used in combination. A job should be done by the process that best fits the job. Usually if a job is forced to a process, something is lost—profit, effectiveness or quality. The ability to handle the job by the proper process is a major advantage of the combination plant.

Masking Papers

(Printed by courtesy of Lithographic Technical Foundation, Inc.)

It might appear unnecessary to say that your masking paper should be lightproof. However, you may be using a poor masking paper without knowing it. LTF has found that some yellow or orange papers let through as much as five per cent of the light. These are not good unless you use two thicknesses. Lightproof *red* masking papers are available. One thickness of these will mask satisfactorily.

In some cases, aluminum foil is very handy for masking. It is quite thin and is good for precision masking of work that bleeds. An example of where it is almost essential is photocomposed labels that are exposed through a glass negative and which butt and bleed when the press sheets get one cut on the paper cutter.

The Single Color

Offset Press

By I. H. SAYRE

THE PURPOSE of this book is to offer a detailed technical explanation of the operation of the small single color offset printing press. It also carries recommendations for approved methods of printing technique and press care which apply to all offset printing. Much of the technical operating information applies to all makes of small offset presses. Should be in the library of all executives interested in offset printing.

Section I deals with Harris offset presses.

Section II deals exhaustively with materials used in offset printing.

Section III deals with ATF's Webendorfer single-color offset presses.

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Good Supervision is Cheapest Factor in Newspaper Work

By CHARLES J. HENTSCHELL*

*Business Mgr., St. Louis (Mo.) *Post-Dispatch*. Abstracted from a talk given before the American Newspaper Publishers Assoc. Convention, Waldorf-Astoria Hotel, New York, N. Y., April 1954.

THE cost to operate newspaper mechanical departments has become enormous in the last ten years. At our plant it constitutes 24.6% of our expenses, and with newprint added it totals 57.4%. In the last few years the hue and cry has been how to cut this expense.

Tirades against the unions and blasts at newsprint suppliers are not the complete answer. Certainly, these costs have gone up, but many of our troubles can be laid at our own feet. What can we do at our end to solve these problems? First, familiarize yourself generally with your mechanical departments.

Secondly, employ a good production manager. And by a good production manager I do not mean an old, loyal mechanical department foreman who, with rare exception, has never been interested in any of the other mechanical departments, and at his age never will be. It is too important a job to be handled as a reward for long years of faithful service.

The job of production manager today requires a man with initiative, intelligence and leadership. It is a top executive job. In our plant he is responsible for the expenditure annually of more than $5 million, exclusive of newsprint. We cannot afford to treat a sum of this size lightly or indifferently and neither can you.

Good Production Men are Scarce

Top-flight production executives are not easy to come by. They are a scarce item, but they can be developed. In your plant there must be a young man with the desired qualities who can be trained and gradually put in charge.

The right man in charge can weld his foremen into a cooperative team that will pull together and approach problems on a cooperative basis.

Foremen Are Vital

Foremen are vital to our operation. One of the best things your production manager can do for you is to pick good foremen—men who know their job thoroughly, who can handle and get the respect of their men and who are cost conscious.

Good supervision is vital and management must recognize it and pay for it. It is the cheapest thing you can buy. This also applies to your assistant foremen. Their salaries must be high enough to attract good men. In some newspaper plants, the supervisors are in a rough spot—on one hand they represent management and on the other they are members of the union.

Weekly Meetings

Once you have a production manager of your choice and able foremen selected, see that weekly meetings are held by them to discuss their problems. The foremen will get to know each other and a spirit of cooperation will develop that cannot help but make your operation a smoother and better one. These meetings keep them informed of the trends in advertising, in circulation and in production costs.

Educate them as they develop. See that they get to visit plants that are doing a job. Have them attend the mechanical meetings where they can meet other production executives and engage in talk of mutual problems. It will pay off if the men you have selected are conscientious and ambitious.

Report on Equipment Needed

Undoubtedly they will come back from these conferences with ideas on equipment. Make your production manager detail exactly how this equipment is going to pay for itself. What are its advantages and exactly what are the savings? These can be determined and evaluated closely. Then, if and when the equipment is bought, secure regular reports from him detailing if the equipment is doing the job that was expected of it. If not, dig into it and find out why.

Once the team is built and the flow of improved machinery is started, what can you as publisher expect? Given dynamic leadership and good supervision you are in a position to start reducing costs.

Newsprint is our biggest cost item. Today everybody is worked up about reducing roll size and effecting these savings. Yet many of us have been making these savings for ten years or more. In the case of the *Post-Dispatch*, it has meant big savings.

Why were there so few of us to reduce roll sizes in the early days? Editors feared

New York Printers' Safety Rally

Nearly 250 safety-minded executives of the printing industry recently attended a workshop on plant safety in New York organized by the Intl. Assoc. of Printing House Craftsmen. The meeting was co-sponsored by the New York Craftsmen's Club, New York Employing Printers Assoc. and 17 other national and local Graphic Arts groups. Principal speakers were Raymond Blattenberger, U. S. Public Printer; John M. Wolff, Vice Pres., Western Printing & Lithograph Co., St. Louis; and Peter J. Bernard, Safety Director, H. Wolff Book Mfg. Co., New York, N. Y.

Shown above at the head table, from left to right, are: Seated, Mr. Wolff; Edward Blank, Plant Mgr., Rogers, Kellogg, Stillson, and President, New York Craftsmen's Club; Public Printer Blattenberger; and J. Raymond Tiffany, Exec. Dir. of General Counsel, Book Manufacturers Institute. Standing, Roy Eastin, Admin. Asst. to U. S. Public Printer; Don H. Taylor, President, New York Employing Printers Assoc.; Mr. Bernard, who is also Intl. Safety Chairman of the Craftsmen's association; and Henry A. Schneider, Charles Francis Press, New York, N. Y., and Second Vice Pres., Intl. Craftsmen's association.

In his talk, Blattenberger stressed the need for high morale among workers as a deterrent against accident frequency. He also urged constant inspection in printing plants to find where danger lurks and then a positive program to overcome it. Wolff approached the accident prevention subject from the standpoint of the need for good supervision. He said that supervisors have a moral obligation to safeguard the health and well-being of those in their departments.

Bernard advocated thorough training of new employees in safety practices to overcome accidents in the printing plant. He pointed out that 16 per cent of printing industry accidents happen to employees in their first three months of employment which indicates unfamiliarity with a plant and its equipment. On the other hand, he said "familiarity breeds contempt" because 18.5 per cent of printers are injured after five to ten years' employment in the same plants. He thought this could be overcome by unremitting adherence to safety practices.

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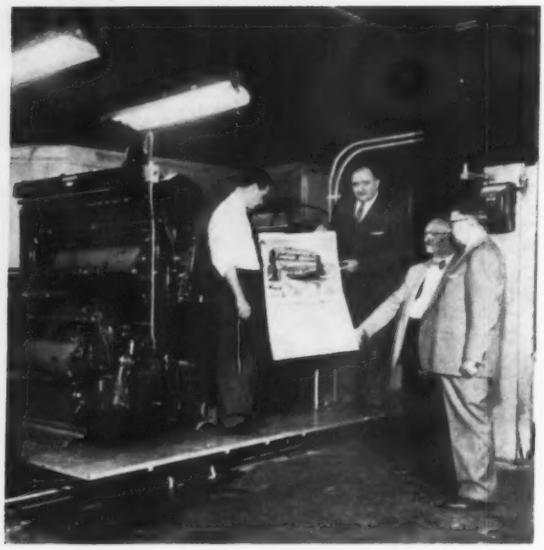

Installs Press on Anniversary — Jensen Printing Co., Minneapolis, Minn., celebrated its 49th anniversary recently by installing a two-color 22 in. b. 34 in. Harris offset press, Model 234, a section of which is shown here. Present during the first press run are, left to right, William Schwab, foreman of Jensen's litho department; Joseph McConnaughey, Western District Mgr., Harris-Seybold Co.; Charles H. Jensen, president of the Jensen firm, and C. A. Loefgren, Asst. General Sales Mgr., Harris-Seybold.

readability of the paper would suffer or produce executives shied away from high shrinkage and other problems attendant to reducing roll sizes, or else they were afraid of trying to do something they had not done before. We checked with experts who told us that legibility of the paper would not suffer and one by one we licked the minor problems that go with reduced roll sizes.

In our plant we started a campaign to reduce newsprint waste and it is a good example of what can be done by cooperation. Management furnished the equipment. The foremen and the crew became interested. Handling waste, core waste and white waste were all attacked. The pressroom was brought into it. As an example we found we could save press waste and improve production by using our best running paper on the difficult web leads. As a result, we are among the lowest in waste in the country. More than a full percentage point has been chopped off—and on an annual consumption of 60,000 T. that adds up to a lot of paper and to a lot of dollars.

Examine All Departments

A painstaking study of your composing room and its relation to the departments it serves is vital. Is the news department too demanding? How much type actually gets into the paper? Or does a lot of it end up in the hell-box as overset or editor's corrections?

Advertising deadlines and number of corrections permitted can afford opportunities for economies while not hurting service if the advertisers are briefed on why these deadlines are needed.

Step by step each department should be examined and studied. Here your production manager can head up this program and report back as his survey progresses. Give him your full cooperation. Listen to his story. Where his suggestions cannot be followed, explain why not. Do not let him think it is apathy on your part. Your continuing interest will keep him moving and driving at his end.

Distinguishing Scum, Slur, and Doubles

(Reprinted from Research Progress, Lithographic Technical Foundation, Inc.)

Dot slur, doubles, and scum are often confused. Here's how to tell them apart.

If halftone shadows and reverse lettering are filling in, examine the plate and the prints with a magnifier. Check both for shadows and the highlights:

Scum

If halftones and reverse lettering on the plate are filling in while the other blank, non-printing areas are staying clean, the trouble is scum. The dot spread is usually uniform throughout the full scale of tones. Also the spread is usually uniform around the outside edge of each dot.

If the halftones on the plate are clean but are filling in on the prints, the trouble is not scum. It is either a slur or a double.

Slur

A slur is usually noticed first as a "filling-in" of halftone shadows. It appears as a "drag" or smear at the back edge of each dot. When it first appears, it shows on the blanket but not on the plate. You seldom see it in the highlights. The effect is often uniform over the sheet but may show especially in halftones that are in line with a large solid across the cylinder. It does not occur in streaks except when the cause is a loose blanket. The trouble is most commonly encountered when running coated or enameled stock and especially in plants where the majority of work and experience has been with uncoated papers.

Doubles

A double usually shows as a distinct double impression of each dot. Sometimes the dots are distinctly paired in the highlights and overlap more and more as you go from the middletones to the shadows.

You'll notice doubles usually on the back edge of the sheets. They occur most commonly with coated paper and/or thin paper.

Correcting Scum

The most common cause of scum on a well desensitized plate is dirty or greasy dampeners. Dirty dampeners don't transfer enough water to the plate to make it repel ink. The cure, of course, is to clean the dampeners. Another cause is poor desensitization of the non-printing areas within the halftone. To assure good desensitization, put a full charge of ink on the image and powder it before etching. This will prevent the ink on the dots from repelling the etch around the edges of the dots. If the trouble persists, then add a little more etch to the fountain water to keep the dampeners clean and water absorbent.

Correcting Slur

Slur can be corrected by adjustment of the following causes:

1. Too much back cylinder pressure.
2. Too soft a blanket. For best results when printing from fine grained or smooth plates on coated stock, use a hard blanket and minimum plate-to-blanket pressure.
3. A loose blanket, uneven tension on the blanket, or a blanket installed with the directional arrows or stretch lines across the cylinder instead of around it.
4. Running too much ink or very soft ink.

Correcting Doubles

Doubles are caused when the paper touches the blanket twice. For example, when a ripple forms in the paper just ahead of the impression, the paper touches the blanket just before the impression and again during the impression. This can happen if the paper has wavy edges and is not flat. A bulge forms ahead of the impression and the paper contacts the blanket prematurely. In this case, the double is usually worse near the back edge of the sheet, especially the back corners.

On multi-color presses, doubles can occur when ink that has just been printed

Craftsmen's Convention Planning

The Philadelphia Club of Printing House Craftsmen is hard at work planning the 35th Annual Convention of the International to be held in that city on August 8-11. The Bellevue-Stratford Hotel will be convention headquarters. Officers of the Convention Committee are as follows: General Chairman, Ray Miller, sr.; Co-Chairman, Walter Morawski, North American Composition Co.; Secretary, Harry Susemihl, N. W. Ayer Advertising Agency; and Treasurer, David Hopkins, Royal Electrotype Co. The Executive Board is comprised of William Hicks, Miller Printing Machinery Co.; Robert Pollock, Godfrey Roller Co.; and Ralph De Kalb, Alfred Jordan Co.

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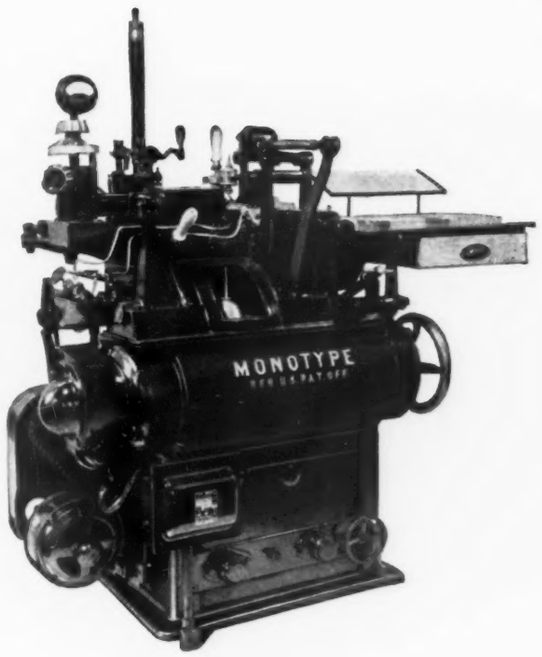

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All display matrices from 14 to 72 point can now be rented through the Monotype Matrix Rental Library. For the first time Twentieth Century, Bodoni, Century and other popular head-letter and advertising display faces can be added to your composing room without purchasing matrix fonts. Big news certainly . . . news which will help solve your big type problems!

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A NATURAL FOR THE NEWSPAPER

In addition to casting Monotype-quality single types, the Giant Caster will cast solid (not cored) base for use under 16 gage photo-engravings (0.065). By making one-quarter turn of the base material it may be used for mounting stereos or electros (0.155). Base may be cast in pre-determined lengths to twenty-five and one-half inches maximum. Giant Caster will also cast continuous strip precision furniture from 14 to 72 points.

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on the sheet is offset to the blanket of the next unit. This ink from the first unit (which is on the blanket of the second unit) can then be transferred to the following sheet if the paper is not flat and is not registering properly. In this case, the double is printed during the second impression. Likewise, a double in the second unit color may occur at the third unit, and a double in the third unit color may occur at the fourth unit.

You'll notice that slur and doubles require adjustments of the press or paper to correct the trouble. A more acid fountain solution will not help and will only shorten the life of the plate.

Rubber Plate Staggering Corrects Uneven Impression

(Reprinted from *The Mosstyper* published by the Mosstype Corporation)

HOW would you diagnose the case of a rubber plate printer who complained of uneven prints—more specifically, impressions that were *heavy* at the top and bottom of a design but *light* at the center?

When symptoms like these present

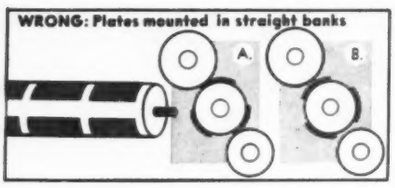


Fig. 1

themselves you can look for the cause in several places. The root of the trouble may lie with the plates—they may be inaccurate or lacking in pre-makeready. Or the printing cylinder may be eccentric . . . improperly adjusted . . . or not locked securely in place. Or, possibly, the plate cylinder may be too small in diameter in relation to its span to maintain rigidity of the cylinder across the press.

Most often, however, uneven impressions can be traced to improper mounting of plates on the plate cylinder, particularly in the case of cylinders with small diameters. If, for instance, plates are mounted in straight banks across the cylinder so that a valley remains between each pair of banks, the design will print up unevenly and give the appearance of high and low spots on the plates. This occurs because the plates do not provide an unbroken riding or bearer surface between impression cylinder and ink roller at all times. Consequently, the plate cylinder is not in a constant state of equalized support and it tends to bounce during the printing operation.

Fig. 1 shows in cross-section the effect of straight-bank plate mounting. When (A.) plates at opposite sides of the cylinder simultaneously come in contact with impression cylinder and ink roller the plate cylinder's position is equalized and prints are even. But, as the cylinder rotates, (B.) a position is reached where

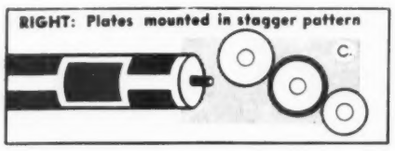
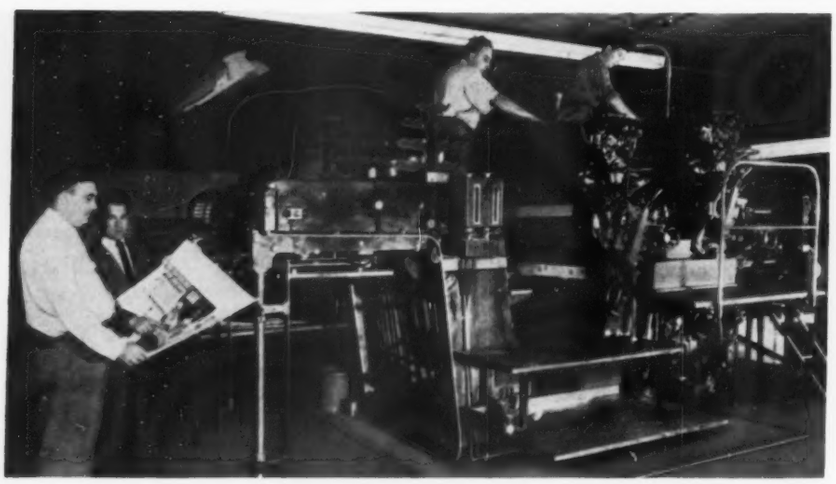


Fig. 2

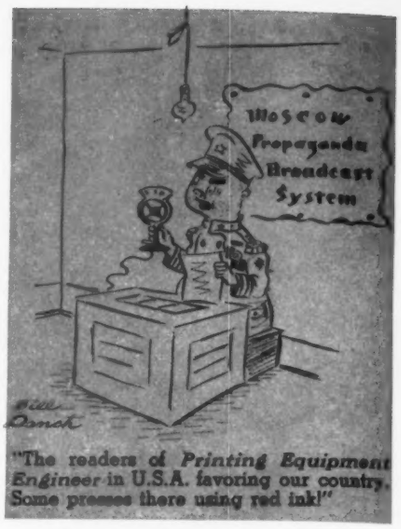
plates are in contact with the web on one side while a plateless valley faces the ink roller on the other. The result is that the plate cylinder, lacking support, tends to back away from the web.

In *Fig. 2* it may be seen that when plates are staggered on the cylinder they afford a continuous bearer surface that maintains the printing cylinder's position throughout the operation and, therefore, assures uniform impressions over the entire web.

Many of our readers will respond to your Want Ads in the Classified Section of *Printing Equipment Engineer*.



ATF Press Added by Futura—The third American Type Founders-Mann unit to be acquired by Futura Lithographic Corp., New York, N. Y., a two-color offset press, was installed recently. Pictured with the press are (left to right) Irving Levins, Supt.; Harold E. Becker, President; P. Goorhigian, Pressman, and Edward Roberts, Pressman.



"The readers of *Printing Equipment Engineer* in U.S.A. favoring our country. Some presses there using red ink!"

Phototypesetting Is One Part of the Answer

"TO COMPETE successfully with offset and gravure, the letterpress printer must match the progress of his competitors in his production methods, particularly in platemaking and presswork. One part of the answer lies in photographic typesetting since it provides in one step the required type on film for reproduction on a plate." These statements were made by Harold B. Plaut, Sales Promotion Mgr., Intertype Corporation, before a recent combined meeting of the Boston Club of Printing House Craftsmen and the Boston Litho Club.

Speaking on the subject *What Photocomposition Means to the Letterpress Printer*, Plaut cited what he termed advantages in photocomposition. Photographic type on film eliminates the problems sometimes encountered in reproduction proofs, such as ink spread, smeared proofs, pitted letters, shadows around type and loss of detail through secondary camera operations.

Advantages in Phototypesetting

He claimed that phototypesetting provides a sharpness and density in type that no other method can duplicate. The speaker further stated that the ability to use a letter-by-letter exposure system results in close-fitting, full-kerning typography, rivaling the effects of hand-set type.

Photographic techniques also permit the uses of lenses to secure machine-set sizes from 4 to 36 pts. from two matrix fonts. Enlargement of type on film to 144 pts. and larger may be accomplished by a photographic enlarger.

Continuing, Plaut said photocomposition provides by contact printing, the production of type for reverse plates. He cited as an advantage the handling of film as opposed to the handling of heavy type forms and related equipment. On the storage problem of standing forms, he explained that the complete forms of a

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26″ Heavy Duty, Micro-ground balanced 30-lb. shear
Matrix Clamp for positioning mats
Storage space for packing felt
Cork top table offering cushion surface for boning mats
Mounted on all Steel Cabinet

Floor Space 28″ x 42″
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WITH 8 OUTSIDE COMPARTMENTS

FEATURES

8 Outside compartments each holding eight packages of Superior or Vent-A-Flex Gummed packing felt.

Each compartment can be used for a different gauge and width of packing felt.

Easily accessible from any side of table

Cork Cushion top

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Storage space inside for 600 sheets packing

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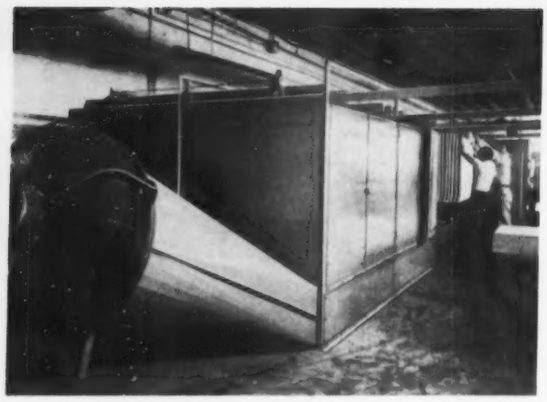


Paper Conditioner Installed—Buck Printing Co., Boston, announced recently the installation of a Southworth Paper Conditioner. Buck's expansion program also includes rebuilding its plant to accommodate a 2-color 52 in. by 76 in. Miehle offset press and a 2-color 28 in. by 39 in. Miehle offset press. The paper conditioner, made by Southworth Machine Co., is a 3-compartment unit that will condition sheets up to and including 52 in. by 76 in. Each compartment takes 2500 to 3000 sheets at a loading, depending on weight of stock, which is brought into equilibrium with the pressroom atmosphere by a strong current of air forced from the pressroom into each compartment by a propeller type fan. This air is forced up between the sheets from bottom to top to assure conditioning of each sheet.

photographically composed book can be stored in a filing cabinet.

Applications of phototypesetting in the letterpress field have been limited thus far due to the "slow evolution of a fast, economical plate for relief printing." The Intertype representative pointed out several examples of how photographic type is used. They included the making of engravings for direct printing, electrotyping or mat rolling for magazine and newspaper advertising.

Magnesium May Be the Answer

Proceeding further into the making of plates from photographically composed type, Plaut had this to say: "If the letterpress printer is to compete successfully with the rival processes, he must have a plate which can be made rapidly and economically, and used with maximum flexibility on rotary presses." He said he thought that magnesium metal along with the fast etching method developed by Dow Chemical Co. has the best possibilities.

It has been reported, he added, that dry offset plates have been etched on magnesium to a depth of 0.010 in. in 4 min. and other magnesium plates of heavier gauge etched to 0.020 in. in from 8 to 10 min. Depths up to 0.040 in. have been secured in one additional bite after the automatic etching process. The ANPA laboratory reports successful etching of halftones to a depth of 0.007 in. to 0.008 in. in 2 min.

Advantages of Magnesium

Mr. Plaut summarized the following advantages of magnesium: Etching is performed without powdering, burning-in and cooling; the metal is one-fifth the weight of copper and one-fourth the weight of zinc; good wearability in direct printing; stability for mat rolling; small grain microstructure for good halftone reproduction; flexibility in general processing and storage operations, and easy working characteristics on routers, saws and bevelers. He further pointed out that a 16 ga. standard size magnesium newspaper plate weighs 1.6 lbs. as compared with 46 lbs. for a conventional metal stereotype page.

The speaker told his audience that one million impressions from an average magnesium plate is not unusual. He added that in a recent dry mat molding test conducted in Cleveland, over 2000 mats were rolled from a magnesium plate without appreciable wear or distortion.

Will Never Replace Hot Metal

Referring to the Intertype Fotosetter phototypesetting machine, he said its type has been used for making printing plates for letterpress, offset and gravure. The work turned out in this machine has been used in book composition, tabular and rule form work, invitations, catalogs, labels, magazines, maps, silk screen work, television titles, etc. In conclusion, Plaut made the following statement: "While it is safe to say that hot metal typesetting will never be replaced entirely by photocomposition, it is evident that the new composing method has many inherent advantages and will find its place in the Graphic Arts."

Bi-Metal Offset Plates Repaired By Plating

(Abstracted from a talk given by G. N. Martin, Asst. Supt., Lithographing Dept., The Steck Company, Austin, Tex., at the Offset Clinic, Intl. Craftsmen's Convention, Dallas, Tex., September 1953.)

COPPER-CHROMIUM plates usually require the plating of chromium for repair or corrections. The other bi-metals require copper plating.

Most metals can be plated from a small, pencil-like applicator to satisfy the requirements of plate corrections and repair. Complete supplies of solutions and equipment can be purchased at a very reasonable cost from suppliers.

The applicator consists of a wick-like material which surrounds an electrode. This material is resistant to the chemical action of the plating solution. Glass wool or cloth is very good wick material. Electric current is supplied to the solution in the wick through the electrode. The electrode may be a wire or strip of the metal to be plated or it may be a carbon stick, such as an arc light carbon. To brush plate, the applicator is soaked in the plating solution and then simply rubbed back and forth over the area where plating is desired. The wick acts as a reservoir for the plating solution and prevents an electrical short circuit between the electrode and the plate. The movement of the applicator agitates the solution and thus prevents severe burned spots and other complications.

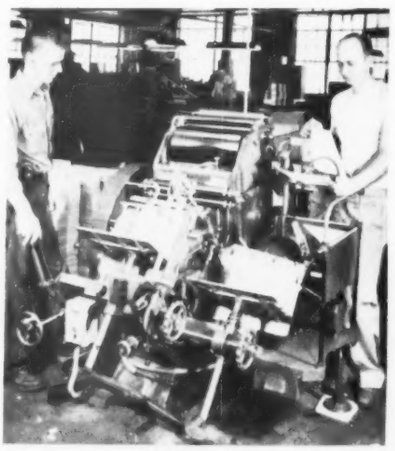
Power Sources

The power source for brush plating often is simply $1\frac{1}{2}$ v. dry cell batteries connected in series to give the desired voltage. Another very flexible source of power is a small battery charger coupled with a means of varying the input voltage, such as a rheostat or a variable transformer.

This power source can supply needs for plating chromium, copper, brass, nickel, silver, zinc and many others. The voltage can be changed in an instant to any desired level from zero to maximum capacity of the charger. A good rule of thumb in obtaining the correct voltage is to start at an estimated minimum and to build up slowly until plating begins. Continue at this level until a well adhered thin layer is deposited, then increase the voltage to decrease plating time. Too much voltage will cause bad discoloration and loose deposits.

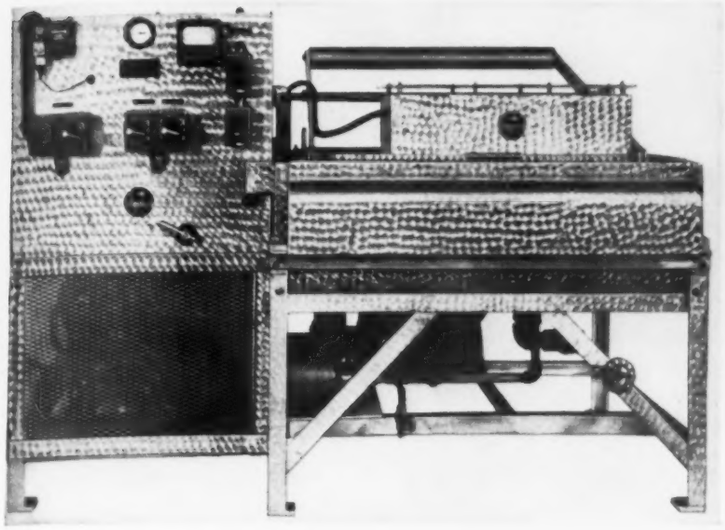
Preparing Work for Plating

The work to be plated must always be cleaned well. The plating solution itself makes a good cleaner in the case of chromium plating on copper. The greasy materials should be removed with a good solvent such as type wash. Then the plating solution should be applied for a few seconds. Take care that the solution does not stand on any image area of the



Thompson-British Press Installed — This Thompson-British 10 in. by 15 in. automatic press recently was installed in the pressroom of the Mills Envelope Co., Chicago, by Harris-Seybold Co.'s Special Products Div. At left is pressman William F. Bartz and at right is Asst. Supt. William A. Nelson.

CHEMCO'S NEWEST CONTRIBUTION TO FAST, FINE QUALITY NEWSPAPER PHOTOENGRAVING...



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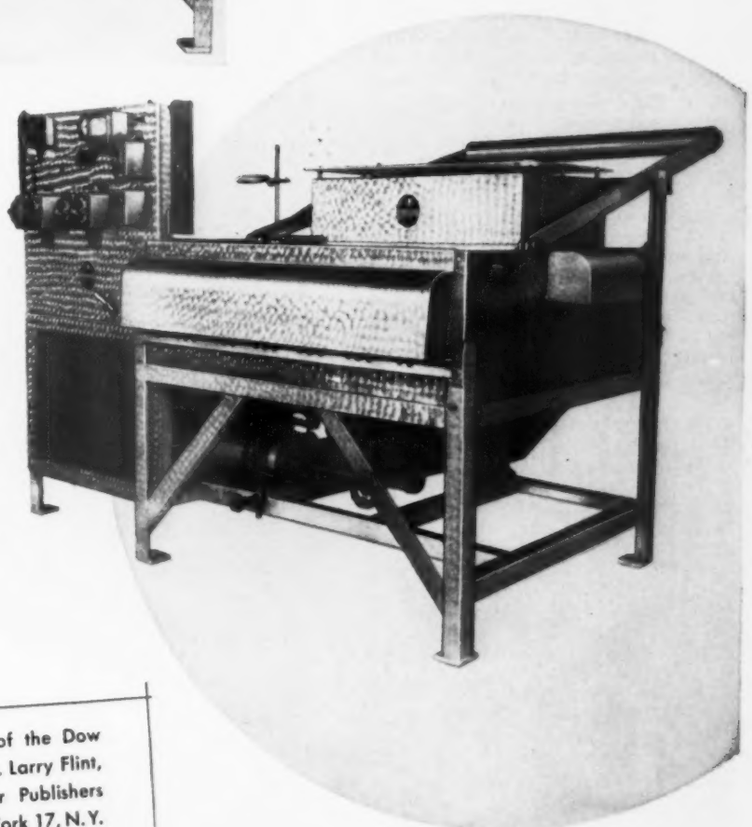

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See it on display at Chemco's Booths 61-2-3, ANPA, Mechanical Conference, June 6-10 at Convention Hall in Atlantic City.

* *Produced under license from The Dow Chemical Company*

For details on the ANPA Modification of the Dow Process for use in newspapers, contact Mr. Larry Flint, Research Director, American Newspaper Publishers Association, 370 Lexington Avenue, New York 17, N.Y.

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plate that is not to be removed because it may be blinded and require special treatment to grease it up again. The safe thing to do is to wash the ink off and apply stop-out lacquer before the cleaning of the area to be removed from the plate. The plating solution that is used for cleaner may be left on the plate and used to make the deposit of chromium.

One word of caution regarding the fringes of the plating solution. Take care that the solution does not dry at the edges for more than a few seconds. The fringes that dry are often sensitive and scum for a while on starting to print. It seems a good idea to rinse the solution off and blot until the plate is almost dry and then start plating directly from the applicator. Rinse and gum.

The chromium deposited in this manner is not pretty. It is dark, particularly where plating laps over an old deposit. The lithographic qualities seem to be quite good. Sometimes the plated area is a little sensitive when it is done on the press and printing is resumed immediately. Aging of the dried gum seems to benefit a chromium surface similarly to the way it does on zinc and aluminum.

Copper repair work can be done on zinc or stainless steel with cyanide copper plating solution.

Baldwin Ink Agitator

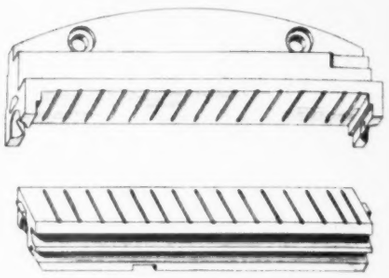
The Art Color Printing Co., New York, N. Y., recently installed Baldwin Ink Agitators on its 36 in. by 48 in. two-color Claybourn press. Shown with the ink control units and press is C. H. Search, the company's mechanical engineer. According to the manufacturer, William Gegenheimer Co., the Baldwin Ink Agitator keeps ink mixed and forced against the fountain roller to feed a uniform supply

to the forms. The mechanism requires no care, and a separate motor drive mechanism keeps ink in mill condition, even when press is not running. Baldwin Ink Agitators are applicable to both offset and letterpress, and are adaptable for full, short, or split fountain jobs, sponsor claims.

Double Ribbed Mold for Parallel Trim

Some time ago, Intertype Corporation announced it would supply molds having trimming rib grooves ground in the body as well as in the mold cap. The rib grooves in the body are 0.003 in. deep. The idea is to make it possible for the machinist to adjust the side trimming knives to secure more accurate parallel trim of the slugs bodywise. When the slug is trimmed, the left-hand knife almost completely removes the ribs on the constant side of the slug. The mold body ribs may be applied to new molds or outstanding mold bodies may be processed at the factory. However, the ribs in the body must be opposite the ribs in the mold cap to permit securing maximum parallel trim of the slugs. The four-mold disk molds as well as the six-mold disk molds may be supplied with the ribs in the constant surface.

It appears that the mold body ribs will permit trimming slugs to close tolerances from end to end and from top to bottom provided the side trimming knives have been ground to the proper angle, they are of the same height and are straight and true along the cutting edges. Also, the upper and lower surfaces against which the mold banks during ejection of the slug from the mold must be properly adjusted to take up any forward movement

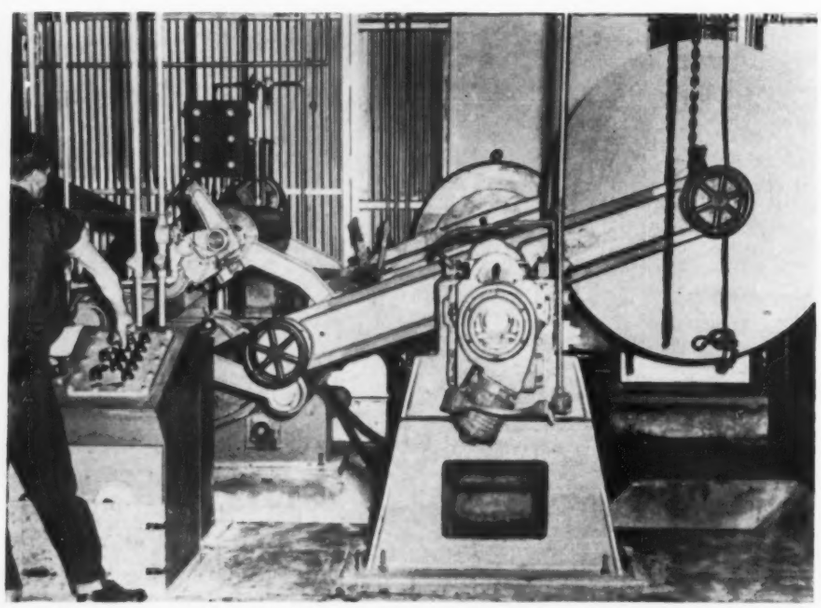


This diagram is illustrative of a mold from an Intertype six-mold disk. Ribs 0.003 in. deep have been ground in the constant side of the mold. These modified molds also are available for four-mold disk molds. Nearly all of the ribs on the constant side are removed during the trimming of the slug.

of the disk when the ejector blade first strikes the base of the slug. Thus it can be seen that accurate trim of the slug, particularly for a bottled condition, cannot be overcome entirely just because ribs have been supplied for trim on the smooth or constant side of the slug. In other words, the side knives must be ground properly, they should be of the same height, they should have proper clearance angle from cutting edge to the base of the knives; the mold banking should be adjusted to eliminate forward movement of the disk when the ejector strikes the slug base, and the striking end of the ejector must be parallel with the mold body.

The form lockup man and the pressman in commercial plants where printing is done direct from slugs appreciate parallel slugs and the elimination of the necessity for supplying cardboard strips between slugs in the form to overcome a bottled condition of the slugs. The man at the saw-trimmer likewise (where Mohr saws are not in use) will appreciate the square condition of the slugs.

In one magazine composing room, measurement of the slugs showed a variation from top to bottom of the slug of less than 0.0004 in. We have a report from



Winder Installation—Continuous winding of printed boxboard at speeds between 900 and 1000 f.p.m. are claimed by Dilts Machine Works Div., Black-Clawson Co., for a winder installed recently on a high speed rotogravure printing press at the Godfrey Box Co., Godfrey, Ill. The unit utilizes a double envelopment principle at time of roll change. Wound rolls measure 26 in. wide by 78 in. diam., and weigh up to 3000 lbs. It is stated that starts are made at full press speed without loss of register. In the above view of the unit, the knife has just cut the web and a fresh start has been made on the new core. Enveloper rolls are in position around the core while the full roll is ready for unloading.

HYDRAULIC DRIVE
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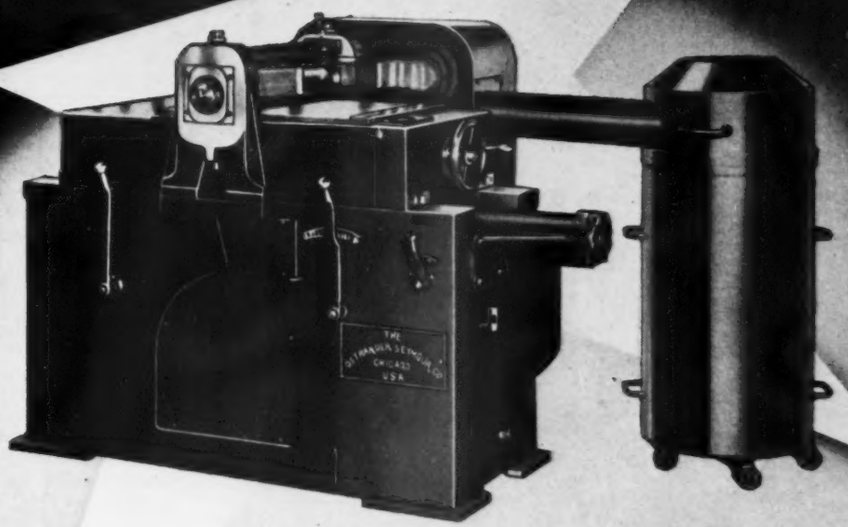
ADJUSTABLE CUTTER HEAD



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Never before has efficient equipment been so essential to profitable operation. Yet in many plants little attention has been given to the machinery of production, in relation to profit or loss.

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Technicraft Installs Harris Press — Technicraft, Inc., Cincinnati, O., recently installed a single-color 35 in. by 45 in. Harris offset press, Model 145A. Looking over the press are (left to right) Charley F. Davis, Pressman; Elmer A. Minton, Helper; Norbert N. Pies, President, all of Technicraft, and Richard A. Navratil, Harris-Seybold Co.'s Cincinnati representative.

a man who visited the plant of a well known composition company. Personally he checked some 6 pt. slugs cast in a mold with ribs on the constant side of the slug. He reported that the variation was less than 0.0005 in. from top to bottom of the slug.

There is a natural tendency for slugs to shrink more in the center than at the ends upon solidification and cooling. Also, on larger bodied slugs, the ejector blade is positioned a few thousandths away from the constant side of the mold so that the ejector blade exerts pressure against one side of the slug. As the trimming action takes place, the slug really "floats" between the side knives. It can be seen that the ribs on the constant side of the slug exert a stabilizing influence upon the straight-ahead advancement of the slug between the knives while being trimmed. The extra ribs equalize the pressure of the slug against the knives and prevent any tendency of the slug to twist or tilt because of greater cutting pressure on the normal rib side.

Noise

Creates Problems Affecting Production in the Printing Plant—What Can Be Done?

By DR. W. SCHWEISHEIMER

THE clicking of linecasting machines is not loud but it is persistent and able to produce irritation and nervousness. At the Cambridge University Press in England, 12 presses were operated intermittently, each making a different noise. The printers used in this test were most affected at the beginning and the end of the noise, or from a change in the loudness or type of the noise.

In metropolitan newspapers, sound-deadening ceilings have been installed in the composing room. The ceilings are designed to minimize the disturbing influence from the noise. Another means of noise absorption advocated is the covering of composing room floors with battleship linoleum. It has also been observed that the loud, deafening noise from large printing presses, coupled with the nervous strain of incessant watching of the machines, considerably affected the pressmen.

Vibration Isolation is Helpful

In some cases, sound conditioning of noisy printing production departments has been obtained by isolating the vibration of the machinery by installation of vibration absorbing material. Sometimes both vibration isolation and sound absorbing materials are used in the treatment of the same space.

Improper mounting of presses may result in unnecessary noise. As Francis A. Westbrook, Mechanical Engineer of Benson, Vt., points out, the bolting of high speed equipment to concrete or wood floors is likely to cause the floor to act as a sounding board which will spread the noise to remote parts of the building. The use of resilient pads under mountings, he says, breaks the continuity of vibration between its source in the press or other high speed machine, and the floor. Adhesives now developed make possible the cementing of such pads securely to the floor, whether it is concrete or wood, and to the metal base of the machine.

Supervisors' Thinking on Noise

Since the invention of power-driven machinery, the effects of unwanted sound have never ceased to irritate industry. Noise makes people grumpy and irritable, it lowers all faculties, and decreases efficiency and production.

A survey of industrial plants has shown, according to a study in *Chemical Week*, that 48% of plant managers did nothing about noise and were unaware of the importance of the problem. Thirty-two per cent of plant managers were conscious of noise problems and were doing or planned to do something about it. Ten per cent of this group were aware of the noise problem, but thought it would cost too much to do anything about it. The final 10% were unaware of specific problems. They were interested, but uncertain as to any future action.

The factors that influence the effects of noise on man, as pointed out in the *Journal of the American Medical Association*, are as follows: (1) The fact that noise is sound of an unwanted character; (2) Extremes of pitch or frequency; (3) Extreme loudness; (4) Unexpectedness; (5) Uncertainty of the direction from which noise comes; (6) Unfamiliarity or inability to identify its cause; and (7) The state of health of the person exposed to the noise.

Problem Has To Be Faced

The problem of noise must soon be faced by all industries. The effects of industrial noise and office noise in terms of

Important Factors In Good Inking

Parts of the press inking system will wear with use and rapidly if regular lubrication is not provided for or practiced. Vital points in the inking system of platen presses are roller saddles and roller springs. As a press ages and especially when worked overtime, it becomes necessary to replace the saddles with badly worn sockets with new ones. There also comes a time when saddle springs should be replaced.

There is a little projection from the core of each roller at both of its ends which often is worn or knocked off. The rolling travel of the roller, instead of jumping, is partly dependent on the presence of these little projections in the roller trunnion in openings provided for them. It is important that these little projections or pins be renewed as often as lost. Ask the roller-maker to replace any pins missing when ordering rollers.

If roller sockets on the cylinder press are not snug and true, the roller may not ride easily but will spin and slip when it turns on the form. If the journal boxes are worn, the roller will wobble in the sockets. If the roller is not parallel to the bed of the press or the vibrator, the uneven pressure causes the roller to heat up prematurely and too much, so that the composition softens rapidly and the roller if not removed from the press will burst or melt.

The vibrating carriage, where the journals rest in the sockets, should be examined at intervals and if the sockets are not snug and true, shims should be welded on the sockets to prevent play.

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fatigue and inefficiency has long been underestimated. In some plants, machine noises were quieted which accounted for a production increase of approx. 9%. In one printing plant, it was found that a 43% reduction in errors resulted after the noise level in the room had been lowered 30%.

Howard C. Hardy, an expert on noise, said that experiments in reduction in noise resulted in the following: efficiency increases of up to 9 per cent; reduction of errors of 30 to 50%; and reduction in absenteeism and employee turnover of up to 50%. In a noisy environment it is necessary to concentrate harder to accomplish the same amount of work. This strain on nervous tension and attention causes fatigue. Women are particularly affected by such influences and it can also be attributed to the excessive labor turnover in the printing industry.

POINTS TO BE CHECKED

Machines against established noise-rating charts.
Machines that cause steady, frequent, single or repeated impacts, or friction noises, such as the hiss of steam escaping from boilers, buzz of power saws, etc.
Areas in which it is impossible to carry on a conversation at a reasonable distance.
Areas in which there is considerable equipment in operation.
Areas in which there are large radiating, resonating or reflecting surfaces.

MEANS OF CORRECTION

Insulate walls and ceilings with acoustical panels.
Provide workers with ear noise protectors.
Properly maintain equipment through lubrication and replacement of worn parts.
Enclose or isolate noisy equipment.
Plan layouts of new or revamped plants so as to segregate noisy machines or areas.
Buy new and quieter equipment.
Install vibration isolators.
Construct stronger foundations for noisy machines.
Install highly absorbent construction materials when builidng or remodeling plants.
Consult sound engineers on specific problems and new developments in noise abatement.

Properly fitted ear defenders may reduce loudness of noises as much as 80% at certain levels. Many workers do not favor the idea of wearing such devices in their ears, but even a 5 or 10 decibel reduction is relieving when it means the noise has reached the borderline of discomfort. Dry cotton ear plugs are of little help. Wax-impregnated cotton is effective, not uncomfortable to wear and can be replaced daily.

Well Arranged Machinist's Room

FROM time to time, views of composing machinists' rooms have been illustrated and described in *Printing Equipment Engineer*. One of these which seems worth calling to the attention of our readers is that arranged by R. B. Denton, Chief Machinist of the Lansing (Mich.) *State Journal*. The 14 ft. by 16 ft. room is partitioned with wire caging to permit free air circulation. Two views taken at different angles are shown. In the left picture there is a parts storage cabinet. Tools most frequently used are mounted on individual hangers inserted in a ¾ in. thick plywood panel.

In the right view are shown a South Bend 9 in. swing lathe and a Foley Automatic Saw Filer. The lathe will accept distributor screws. As indicated in the left hand view, a ¾ in. plywood board fitted with hooks supports an assortment of the most frequently used hand tools.

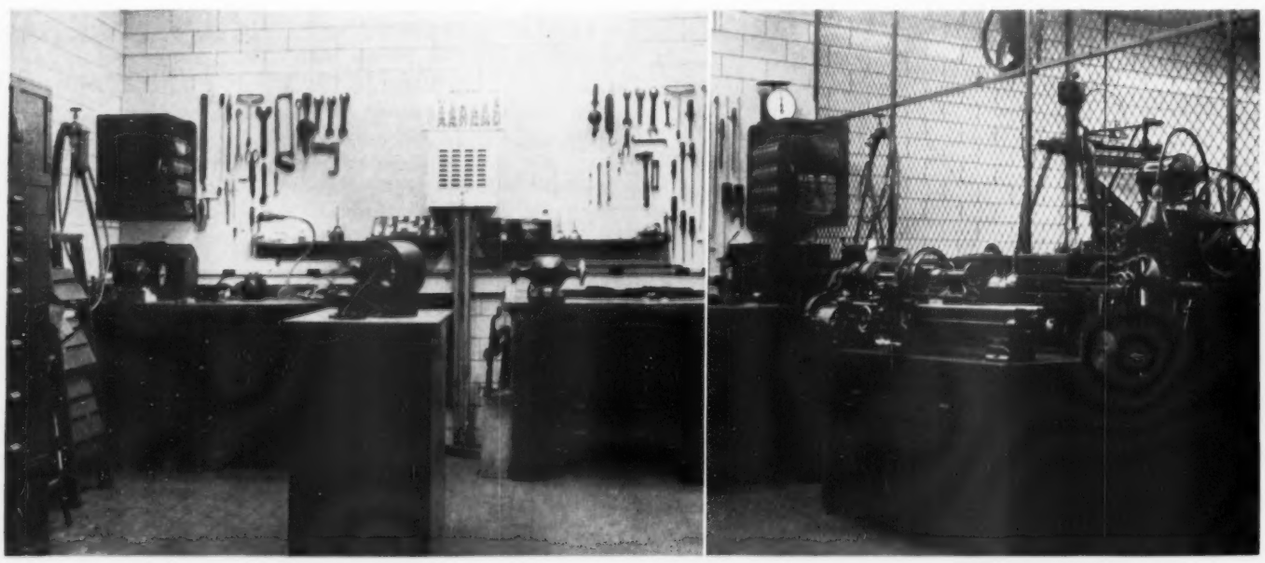
A most complete and accessible parts storage cabinet was designed and built by R. B. Denton. The cabinet was constructed from the clear parts of packing cases in which linecomposing machines were shipped to the *State Journal*. Outside dimensions are 4 ft. wide by 30 in. deep by 6 ft. high.

As will be seen in the illustration, there are four swinging doors, each mounted by two stout butt hinges. The top section interior is painted white as are the interiors of the swinging doors. Two pull chain lamp fixtures mounted in the center of the top section furnish illumination for easy identification of the parts.

Containers for the various parts consist of ¼ pt. mayonnaise jars. (*Editor's Note:* Ordered at one time from maker.) In each door there are 77 jars, or a total of 308. In the angled section at the top of the cabinet the two compartments contain 132 jars. The grand total is 440 jars.

At first thought it would seem parts storage for 22 machines shouldn't be so complicated. However, when one thinks of the many kinds of screws, nuts, springs, buffers, disks, gears, dowels and the like it can be seen that a generous quantity of separate jars would be required.

The six drawers in the center of the cabinet contain spare parts of medium size. In the lower box compartments can be seen two Emerson electric motors, replacement lamps and tubes, an electric



Well Equipped Machinist's Room—Above are shown two views of the headquarters room of R. B. Denton, Chief Machinist, Lansing (Mich.) *State Journal*. Large parts storage cabinet is shown partly at extreme left. The operators' signal board can be seen immediately below the wall calendar. Hand tools used frequently are mounted on a plywood wall-mounted board. In the right view is shown a South Bend lathe which is wide enough to accept a distributor screw. Also shown in right view is a Foley automatic saw filer.

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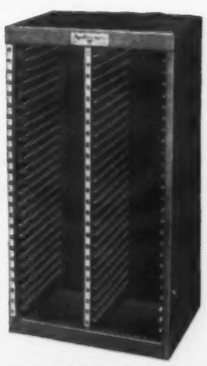

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Overall dimensions of this linecomposing machine parts storage cabinet are 4 ft. w., by 30 in. d., by 6 ft. high. The ¼ pint mayonnaise jars (440 of 'em) hold screws, nuts, springs, buffers, rails, star wheels and the like. The cabinet was built by R. B. Denton, Chief Machinist, Lansing, (Mich.) *State Journal*.

drill, a belt lacer, and lamp attached to extension cord.

Suspended from the ceiling there is a chain hoist for handling heavy machine parts and assemblies. If necessary, a complete machine can be rolled into the room for rebuilding or repair work.

The panel mounted underneath the calendar in the left hand view contains numbered lights which are illuminated when the operator of the corresponding numbered machine is turned on by the operator.

Proof Press Rollers —Their Care

The care of proof press rollers in composing rooms and platemaking plants of all kinds is highly important. It is especially important in composing room where reproduction proofs and/or transparencies are taken that form rollers be kept in best condition.

The man in the pressroom knows that if his rollers are not in good condition he cannot print properly. It is just as important for the composing room press operator to treat the rollers with proper care, especially when proofs must be subjected to the camera eye. The pressman is familiar with the requirements for roller care but in many cases the composing room operator is not.

One roller manufacturer (Sam'l Bingham's Son Mfg. Co.) has issued instructions for the care of rollers. These may be summarized as follows:

Set Rollers Uniformly and Accurately—Some inks require closer setting than others, but it is always good practice to set rollers as lightly as conditions permit.

Check Setting Frequently—Improperly set rollers cannot perform to their fullest efficiency. Friction speeds wear.

Keep Rollers Clean—A roller cannot function efficiently if the surface pores are clogged with dried oils, solvents, or gums. Never permit ink to dry on rollers.

The time devoted to the cleaning and setting of rollers might, in itself, appear to be expensive, but experience in every successful plant has proved that such an expenditure is generously compensated for by permitting greater production with skilled manpower and modern press equipment.

The glue-glycerine roller, while sensitive to changes in temperature and humidity, has never been surpassed in its ability to distribute ink uniformly and intensively over a printing plate or type form. Such rollers require more frequent setting, but they have the advantage of working efficiently with most inks and they clean easily with simple kerosene washes.

For Rubber and Synthetic Rubber

Wash Solution—Two qts. high test (clear) gasoline, 2 qts. kerosene, ½ pt. light machine oil. Use clean rags and plenty of solvent. Occasionally soak rollers in a bath of lye-water to dissolve ink out of surface pores. Use approx. 2 lbs. lye to 5 gal. water. Rinse with hot water. *Caution*—Protect hands, eyes, body and clothing against contact with lye or lye solution; use rubber gloves.

Do Not Use chlorinated solvents, *i.e.*, carbon tetrachloride, ethylene dichloride; hydro carbon solvents, *i.e.*, benzol, toluol, xylol; ketones, *i.e.*, acetone; acetates, *i.e.*, ethyl acetate, methyl acetate, hydrogenated naphtha, etc.

For Vulcanized Oil Rollers

Wash Solution—Equal parts of high-test (clear) gasoline and kerosene. Use clean rags and plenty of solvent, and dry immediately with a soft rag. Rub lightly to avoid scuffing.

Do not Use lye or alkali solutions; chlorinated solvents, *i.e.*, carbon tetrachloride, ethylene dichloride; hydrocarbon solvents, *i.e.*, benzol, toluol, xylol; ketones, *i.e.*, acetone; acetates, *i.e.*, ethyl acetate, methyl acetate, hydrogenated naphtha.

Feedboard Glycerine Well

A hole 1 in. diam. and ¼ in deep drilled into a corner of the feedboard of a hand-fed press can be used to dispense glycerine. The dispenser is useful in any operation where sheets of paper are fed by hand. Several pieces of blotting material cut in circular form are placed in the well and saturated with glycerine. The feeder has only to touch the blotter pad to apply glycerine to his finger

—S. I. Griglak.

Robertson Overhead Camera Installation—Jahn & Ollier Engraving Co., Chicago, recently installed a Robertson 41 in. Tri-Color (Series II) Overhead Camera with a 12 ft. projection back. Maximum plate size of the camera is 48 in. by 48 in. and film size is 60 in. by 42 in. It is designed for all types of work from black and white negatives to full process color separations. Use of 24 in. and 36 in. lenses permit enlargement and reduction of copy within a range of almost 1000 percent to 20 percent of original size. Controls are automatically operated, including positioning of the copy-board, lens case, projection plate holder and projection film holder, lensboard movement, positive holder oscillating motion, flash lamp operation, screen elimination and exposure timing.

Parallel Slugs reduce Makeready cost...

If non-parallel slugs are running up your makeready costs, or if your slugs "belly" in lockup, it will pay you to investigate the advantages of mold body ribs. A set of ribs .003" deep is ground into the body opposite the ribs in the cap, to provide a steadying influence on the travel of the slugs through the knives.

STAR MOLDS WITH BODY RIBS HELP PRODUCE PARALLEL SLUGS

This feature has helped some of the finest composing rooms in the country to obtain slugs which are practically perfect. The additional cost of new STAR molds with body ribs is nominal. Outstanding molds can be converted economically if they are in good operating condition.

Write for full details, or better still, send in your molds for inspection and a quotation on body rib grinding.

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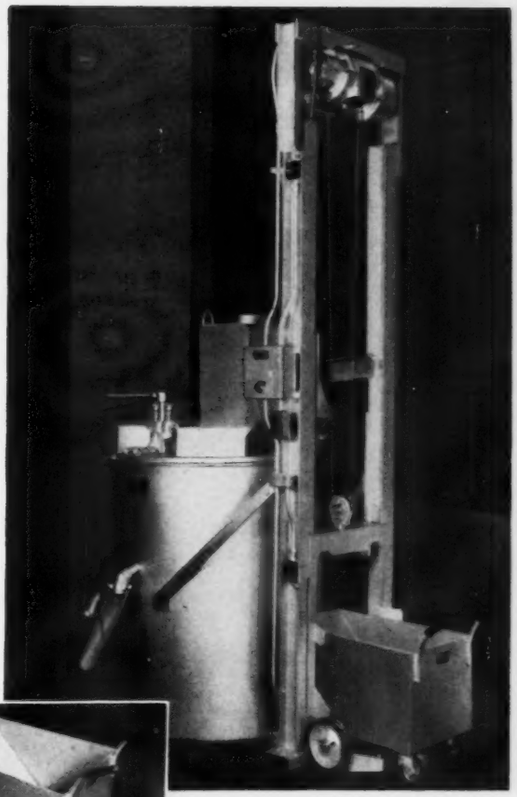

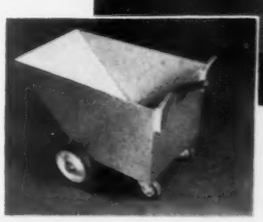

Cart becomes part of loader; eliminates all hand loading and transfer of remelt type.

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Put the two together and you have a team that really speeds up scrap recovery . . . eliminates hand loading! See for yourself! For information on the Kemp Immersion Remelt Pot and Kemp Metal Loader, write today to: THE C. M. KEMP MFG. CO., 405 E. Oliver St., Baltimore 2, Maryland.

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Patents

For The GRAPHIC ARTS

Covering patents issued Mar. 2, 9, 16, 23 and 30.

BINDING, CUTTING, PERFORATION:

2,670,955. CONVEYER DRIVING MEANS FOR SHEET CUTTING AND STACKING DEVICES effects transverse cutting of paper webs into sheets and stacks them. The sheet delivery mechanism of this device is driven independently of the web supply mechanism, transverse cutter and high-speed conveyor and the low-speed conveyor is driven through a differential gear, one part of which is driven with the supply mechanism and another part with the sheet delivery mechanism so that the speed of the low-speed conveyor is dependent on the speeds of the supply mechanism and the delivery device and is approx. one-eighth of their sum. Invented by Gerald Strecker, Darmstadt-Eberstadt, Germany. One-half assigned to Kommandit-Gesellschaft, or limited liability company, Dr. Otto C. Strecker, Darmstadt-Eberstadt, Germany, and one-half to Maschinenfabrik zum Bruderhaus Gesellschaft mit beschrankter Haftung, Reutlingen, Germany. Application Aug. 24, 1950. 2 Claims.

2,671,912. BOOKBINDING machine includes clamps to hold a book of sheets with the edge portion to be bound exposed. The clamps move along a predetermined path. A saw blade is arranged to have its toothed portion extend across the path of travel of the exposed book part. The blade teeth form a cut edge on the book portion. The cut edge has separate fibers and jagged paper portions intertangled and hooked together so as to fasten the cut edges of the sheets together. Glue is then applied to embed sheets together. Glue is then applied to embed the interlocked fibers and jagged portions. Invented by William R. Stein, Teaneck, N. J., and Harold J. Hyde, Jr., Lyndhurst, N. J. Unassigned. Application Mar. 17, 1950. 3 Claims.

COMPOSING ROOM:

2,670,665. OPTICAL SYSTEM FOR PHOTOGRAPHIC COMPOSING APPARATUS projects selected characters upon a sensitized surface, and also spaces the characters. The function of the character spacing is performed within the optical system itself, the respective elements of which are made relatively movable. The support which carries the film moves only for the purpose of line spacing. The optical system is designed to utilize the properties of a collimating lens. Invented by Samuel H. Caldwell, Boston, Mass. Assigned to Graphic Arts Research Foundation, Inc., Cambridge, Mass. Application Mar. 10, 1950. 5 Claims.

2,672,231. CONTROL UNIT FOR COMPOSING MACHINES is automatic and is applicable to standard types of line casting machines. It includes a set of permutation bars having double edged code notch accommodations. A plurality of members individually selectable in accordance with the positionment of the bars are oppositely disposed in accordance with the double edged accommodations. Spring elements urge the members against the bars. A cam cyclically withdraws the members from the bars. A reciprocating actuator bar is employed. A plurality of interponents are each responsively associated with a selectable member. The interponents have engaging facilities, whereby the actuator bar is adapted to engage a selected interponent. Invented by Maurus T. Goetz, Chicago, Ill. Assigned, by mesne assignments, to Teletypesetter Corporation, Chicago, Ill. Application May 6, 1952. 10 Claims.

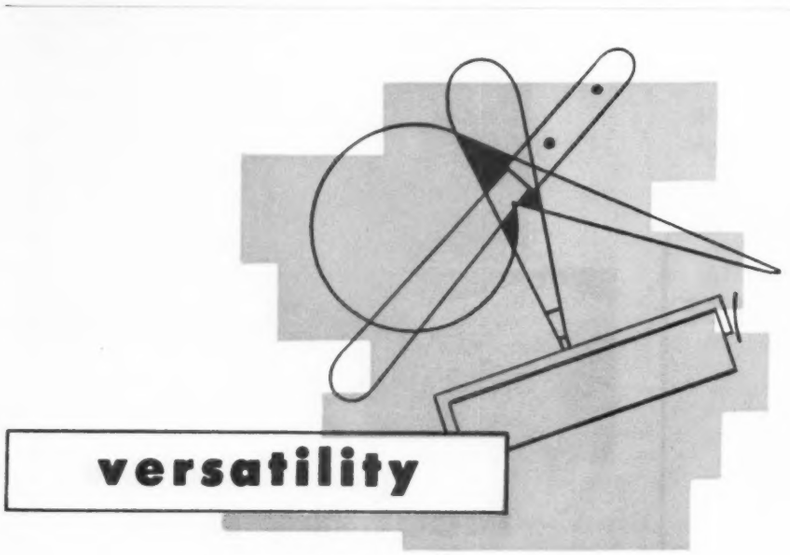
2,672,794. FONT OF MATRICES FOR KERNING OR PRODUCING COMPOSITE TYPE CHARACTERS has mechanical means by which successively photographed characters may be caused to partially overhang or kern or may be produced in fully overhanging or superposed relation to thus form composite or accented characters or symbols of many foreign languages such as Hebrew, Arabic, and others. This is accomplished by controlling the feed of the film between successive exposures according to the thickness of the matrices and by the use of two sets of matrices, one a primary set of matrices, bearing photographable type characters located in the same relative setwise positions and having thicknesses proportional to the setwise widths of the characters; and a group of secondary matrices bearing the same type characters as certain of the primary matrices but having less thicknesses. The characters of secondary matrices are displaced in a setwise direction distances proportional to the difference in thickness between corresponding primary and secondary matrices. Invented by Herman R. Freund, Brooklyn, N. Y. Assigned to Intertype Corporation, Brooklyn, N. Y. Application June 8, 1950. 4 Claims.

2,672,795. PORTABLE PHOTOCOMPOSING APPARATUS is for use in preparing greeting cards, matchbooks, labels and display headings without retouching. The apparatus is also useful in conjunction with a keyboard-type photocomposing machine for composing corrected lines. It also is suited to printed matter using foreign words, phrases, etc., and formulae, similar to the construction of patent No. 2,672,-794, the matrices having a thickness that is proportioned to the set-wise width of the characters they bear and hence the matrix thickness can be used to regulate film movement to secure proper spacing of the characters. Apparatus includes a pair of endless chains for raising the matrices individually to a photographing position at which the characters thereon are photographed and then to a discharging position from which they are discharged on the accumulator bar. The photographing apparatus also includes a lens and movable shutter which, with the conveyor chains and other moving parts of the photographing apparatus are driven through a clutch by a continuously operating electric motor. Photographing mechanism is started by the manual movement of the accumulator bar plate. Invented by Herman R. Freund, Brooklyn, N. Y. Assigned to Intertype Corporation, Brooklyn, N. Y. Application July 20, 1951. 6 Claims.

2,672,972. QUADDING AND CENTERING DEVICE FOR TYPOGRAPHICAL CASTING MACHINES has a pair of line clamping jaws which are movable, each independently of the other, toward the other for quadding, or are movable in unison toward each other for centering. The machine is of the type covered by patents Nos. 2,255,254 and 2,639,027. The present patent features an electromechanical control which may be operated either manually or automatically by a Teletypesetter unit to condition the machine for a quadding or centering, as well as for an automatic quadding operation with the right-hand jaw when a composed line falls short by a predetermined amount of the full length of line for which the machine is set. Invented by Louis Rossetto, Flushing, N. Y., and Gino F. Squassoni, Corona, N. Y. Assigned to Mergenthaler Linotype Co., Brooklyn, N. Y. Application Sept. 9, 1950. 31 Claims.

2,672,973. APPARATUS FOR CONTROLLING SEQUENCES OF OPERATIONS BY TRAVELING RECORD-BEARING MEANS FOR TYPOGRAPHICAL COMPOSING, PRINTING, AND LIKE OPERATIONS. Control devices known as air towers or paper towers are used and are applicable to composing machines of the Monotype, each device being provided in known manner with a perforated paper strip which is advanced step by step through a pneumatic arrangement over a cross bar in which are holes from which pipes lead to pins in so-called pin blocks associated with the caster, compressed air being admitted to such pipes as are uncovered by the perforations to actuate the corresponding

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.



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Heavy construction withstands stresses and eliminates vibration.

Grease-sealed lifetime bearings.

Simplified ink distribution system.

Ink rollers with synthetic rubber covering.

New automatic stopping device.

Variable speeds—25 to 50 impressions per minute.

Powered by compact Unibrake motor.

Write for full information on this machine and many other Wesel Graphic Art Products

WESEL MANUFACTURING COMPANY

Equipment and Supplies for the Graphic Arts Industry

1141 N. Washington Avenue **Scranton 9, Penna.**

pins. The latter arrangement forms part of the existing machine and the pins determine the motions of the die case, die plate, or its equivalent, whereby selection of the desired character to be cast, impressed or projected is effected. Invented by Henry George Croucher, Beccles, England. Assigned to William Clowes & Sons Ltd., Beccles, England. Application June 1, 1951; in Great Britain June 5, 1950. 36 Claims.

2,672,974. MOLD FOR TYPECASTING MACHINES has a slidably mounted mold blade carrier carrying upper and lower mold blades. A mold blade carrier latch is mounted on the carrier and a forward travel stop is mounted adjacent the carrier. A lug on the carrier adjacent the latch extends from the carrier for engagement with a portion of the forward travel stop to limit forward movement of carrier. This portion of the forward travel stop extends toward but terminates short of the mold blade carrier. Type of abnormally wide dimension set-wise may be cast in accordance with the invention. Invented by Gordon W. Curtiss, Atlanta, Ga. Unassigned. Application June 7, 1952. 3 Claims.

2,672,975. MOLD ARRANGEMENT, ESPECIALLY FOR TYPOGRAPHICAL COMPOSING APPARATUS, has two or more mold dimensioning blades arranged side by side and movable between lateral guides in relation to a cross block to form a mold cavity of desired size between the ends of the blade or blades and cross block. A casting metal injection inlet is situated at the end of the cavity opposite the matrix. The blades and their guides are relatively displaceable transversely with respect to the injection inlet so that the latter can be disposed at or near the mid point of the variable dimension of the mold as determined by the positions of the blades in relation to the cross block. Invented by Henry George Croucher, Beccles, England. Assigned to William Clowes & Sons Ltd., Beccles, England. Application July 27, 1951; in Great Britain Aug. 2, 1950. 50 Claims.

2,673,487. COPYING CAMERA is adapted to be automatically focused in accordance with the size of reduction or enlargement desired in the finished product. An automatic control is also provided for the feed of the photographically sensitized film upon which the image is reproduced so that feed is in accordance with size of reproduction desired. The camera is particularly adapted to make reproductions of lines of type, whether each reproduced line is a complete entity independent of any other reproduced line, or part of a connected text requiring definite and/or different spacing from adjoining lines. Invented by George Newman Bumstead, Bethesda, Md. Assigned to National Geographic Society, Washington, D. C. Application Dec. 31, 1948. 15 Claims.

FEEDING, FOLDING, DELIVERY:

2,672,079. ARTICLE HANDLING AND STACKING MACHINE features a counting-stacking device which is adapted for installation on a standard press for receiving books, magazines, or newspapers. The machine has a receiver, and a rockable shaft held in fixed spaced relationship with the receiver. A reciprocable arm is carried by the shaft. A reciprocating movement is cyclically imparted to the first arm to sweep it across the receiver and move articles therefrom to a second arm fixed to the shaft. A rotary movement is cyclically imparted to the shaft to move the first and second arms from the line of travel of the articles. Invented by James H. Chandler, Steger, Ill. Unassigned. Application Feb. 25, 1950. 13 Claims.

2,673,498. SHEET COUNTER FOR PAPER SHEET HANDLING MACHINES, such as a marking attachment for a sheet folding machine where the sheets are advanced in overlapped relation and with folds of succeeding sheets projecting upwardly from the sheets, has a shaft which is adapted to be mounted across the machine and above the sheets. An arm pivoted on and extending radially from the shaft has a marking disc journalled on the arm with its axis parallel to the shaft and with its periphery bearing upon the sheets on the machine. Disc has peripheral, circumferentially spaced teeth having edges which are engaged by folds of succeeding sheets so that advancement of the sheets serves to rotate the disc. A marking pencil is on the disc in line with one of the tooth edges for marking a sheet fold as the fold engages the tooth edge. Invented by Kenneth A. Wagner, Brainerd, Minn. Unassigned. Application Apr. 8, 1952. 2 Claims.

MISCELLANEOUS:

2,670,907. TENSIONING MECHANISM FOR MOVING WEBS, i.e., paper webs during a printing process, has a surface that will at all times be in contact with a part of the strand or web that is being tensioned. It includes a drive pulley, a driven pulley and a V-belt drivingly connecting the said two pulleys, one of which is a variable diameter pulley. Invented by William F. Huck, Forest Hills, N. Y. Assigned to Huck Co., New York, N. Y. Application Aug. 25, 1947. 3 Claims.

"TECHNOLOGICAL REVOLUTION NEEDED" SAYS SMITH

In the January 18 issue of *Advertising Age* under the heading *You Ought To Know*, appears a biographical sketch-interview article about Paul C. Smith, new president of Crowell-Collier Pub. Co. The writeup is an interesting account of a colorful personality. He is quoted by the interviewer in part as follows:

"Asked to enlarge on the 'dynamics of the future', Smith replied: 'There is no reason why we can't become the largest and richest publishing house in the country. We're in the business of mass communications, not in the business of manufacturing three magazines, and I intend to communicate.'

"His overriding interest in the communications field is the 'technology of production.' He regards printing as 'one of the most backward of the major industries' since it has known 'no major new development since the Linotype'. What is needed in publishing, he believes, is a technological revolution.

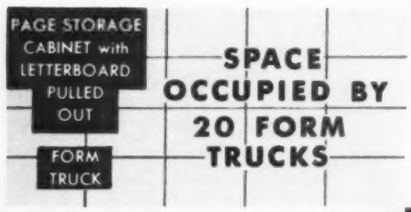
"A devotee of the scientific, of the application of electronics to production, he was sometimes referred to in San Francisco as the Junior Space Cadet. Now he's looking forward to the use of cybernetics* in publishing."

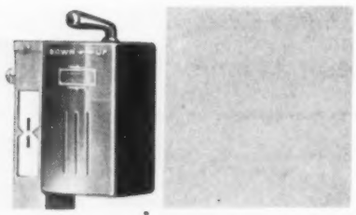
*Cybernetics (medical term) Comparative study of the control system formed by the nervous system and brain and mechanical-electrical systems, such as computing machines.

YOUR 50% SAVING is only the beginning!

Hamilton Electric Page Storage Cabinet No. 1601 — with a form truck in loading position.

ONE heavy-steel Hamilton Page Cabinet stores twenty full-size forms—the capacity of twenty trucks—saving you *at least* half on equipment cost alone. Furthermore, it uses only one-fifth the floor space, permits one-man operation with no manual lifting . . . for extra economy and efficiency all the way.





POSITIVE CONTROL ALWAYS

Shelf can't coast after power is cut. Magnetic brake acts instantly, then shelf can be "inched" up or down into precise transfer position. Note travelling tape indicator just at left of power switch to show exact position of shelf.

Simple operation too: on super-strong chains, letterboard shelves raise or lower electrically to exact form-truck height—for swift transfer of forms. A typical Hamilton contribution to *higher composing room profits* through *lower labor, equipment, and space costs.* See the complete Hamilton line at your dealer's now.

EASY, FAST and SAFE

Letterboards glide smoothly out on rollers to lock rigidly, safely on elevating shelf, until released by triggers. Should any boards be left extended, current is automatically cut off until all are in proper position, safe from damage by moving shelf.

Hamilton

PRINTING EQUIPMENT

HAMILTON MANUFACTURING COMPANY • TWO RIVERS, WISCONSIN

2,673,520. PREVENTING OFFSET OF PRINT FROM FRESHLY PRINTED PAPERS is accomplished by applying a colloidal solution consisting of silica and water in the form of a fine spray to the printed surface of the paper sheets prior to stacking or rewinding them. The solution contains 1-20% silica by weight in the form of colloidal particles of less than 1 micron in diam. The solution is applied in amount sufficient to form a thin film from which the water evaporates prior to stacking or rewinding the paper. Invented by John P. Bainbridge, Jr., Marblehead, Mass. Assigned to Monsanto Chemical Co., St. Louis, Mo. Application Feb. 9, 1948. 5 Claims.

PLATEMAKING:

2,670,662. STEREOTYPE PLATE FINISHING MACHINE is especially for milling tension lock-up pockets in the concave inner surfaces of stereotype plates. The machine employs a cylindrical saddle carried by a frame. A semi-cylindrical stereotype plate is clamped to the saddle by two elongated arcuate clamps disposed in circumferential alignment about the saddle. Hinges are secured to the saddle and pivotally secured to the remote ends of the clamps. An expansible clamp connects the adjacent ends of the clamps. Fixed stops on the hinges limit the movement of the clamps outwardly from the saddle when the expansible clamp is expanded. Invented by Charles L. Ricards, South Plainfield, N.J., Isidor Tornberg, Plainfield, N. J., and Paul L. Tollison, North Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application Mar. 14, 1950. 3 Claims.

2,671,947. SAW BLADE FOR CUTTING PRINTING PLATES AND OTHER PRINTING MATERIALS cuts mounted or unmounted copper or zinc printing plates as well as plastic plates. The saw is formed with multi-angular cutting teeth which will strike the work at predetermined optimum angles when the work is presented to the saw at different predetermined elevations. The saw blade has radially spaced indicia marks relative to a saw table for obtaining the right angle of attack of the saw to various types of materials. Invented by Adrian L. Vander Linde, Kalamazoo, Mich. Assigned to Hammond Machinery Builders, Inc., Kalamazoo, Mich. Application Jan. 29, 1951. 8 Claims.

2,672,772. BORING MACHINE FOR CYLINDRICAL ELECTROTYPES is for the production of curved or cylindrical electrotypes such as are used in the rotary printing of high grade magazines. A work holder is of hollow-parti-cylindrical form and has a plurality of spaced parallel arcuate slots extending from each edge. Two pairs of spaced work-engaging clamps are movable circumferentially of the slots and are curved to fit the inside surface of the work holder. The clamps of each pair are movable in arcuate paths toward and from each other and one of the pairs can be locked in any one of several different positions to accommodate plates of varying dimensions and to form position-determining work abutments. The other clamp may be moved and locked to force and hold an arcuate printing plate against the abutments, thus securely clamping the printing plate between each of the pairs of clamps. Invented by George W. Bungay, New York, N. Y. Assigned to Electrographic Corporation, New York, N. Y. Application Sept. 20, 1950. 1 Claim.

2,673,151. PHOTOSENSITIVE RESIN COMPOSITION is for making a resinous plastic body having an image formed by exposing to a light pattern, in which there is a differential of intensity between selected areas. The composition is a copolymerizable mixture of (a) a polyester of an ethylenically unsaturated alpha-beta dicarboxylic acid and an open chain dihydric alcohol, (b) a polymerizable ethylenically unsaturated compound, (c) a photosensitizing agent comprising an organic, sulfur-containing rubber vulcanization accelerator, and (d) a peroxide type polymerization catalyst, until mixture has partially polymerized. The mixture is then heated to cure it to a resinous state. The invention is applicable to the formation of printing plates. Invented by Howard L. Gerhart, Milwaukee, Wis. Assigned to Pittsburgh Plate Glass Co., Pittsburgh, Pa. Application Mar. 13, 1952. 13 Claims.

PRINTING PRESSES AND EQUIPMENT:

2,670,680. CHASE HOOK FOR PRINTING PRESSES is applicable to the bed of a printing press to hold a leaded chase securely in place on the bed during press operation. The chase hook may be locked or unlocked by a single movement of one hand. When locked, the chase hook tends automatically to increase the force holding the chase in place on the bed. When unlocked, the hook remains securely in such condition unobstructing the path of a chase being passed to or from the bed. Invented by Abel Kluge, Woodbury Township, Washington County, Minn. Assigned to Brandtjen and Kluge, Inc., St. Paul, Minn. Application Oct. 6, 1951. 7 Claims.

2,670,681. APPARATUS FOR REMOVING INK FROM THE INKING ROLLERS OF PRINTING PRESSES comprises an elongated transversely flexible blade mounted upon a blade holder. Flexible stiffening elements engage the ends of the blade to thus increase the resistance of the end portions of the blade to transverse flexure. The major portion of the blade, intermediate the stiffening elements, is free to flex transversely. Invented by Willard M. Pollock, Short Hills, N. J., and Arthur W. Sejeck, Scotch Plains, N. J. Assigned to American Type Founders, Inc. Application Nov. 25, 1949. 3 Claims.

2,670,831. HYDRAULIC MOTION-TRANSMITTING MECHANISMS FOR PRINTING MACHINES AND OTHER PURPOSES are for use in conjunction with a sign and card printing machine of the type illustrated in patent No. 2,115,692. The hydraulic motion-transmitting system includes a driven piston and a driving piston reciprocable in a cylinder. A fluid conduit interconnects the driven piston with the cylinder. The cylinder has an arrangement which forms a discharge port leading from the bore of the cylinder into the conduit. The arrangement is so located that the port is progressively closed by the driving piston as the driving piston

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC. Munsey Bldg., Washington, D.C.

approaches the end of its stroke. Invented by Harold G. Barrett and Godfrey E. Thomson, Chicago, Ill. Assigned to Reynolds Printasign Co., Chicago, Ill. Application Dec. 10, 1949. 33 Claims.

2,671,194. POWER-DRIVEN IMPEDANCE CONTROLLER FOR MULTIPLE INDUCTION MOTOR DRIVES of large printing presses has a plurality of controlling units each including main and vernier switch drums. The drums are electrically connected to individual resistor networks to commutate resistance into and out of the secondary circuits of correspondingly wound rotor induction motors to regulate speeds. The drums of each unit are alternately mounted on reversed similar castings and are driven through individual couplings by an electric motor operating through a clutch arrangement. The couplings may be locked against shifting movement except when the switch drums are in predetermined corresponding positions and the motors are de-energized. Invented by Theodore B. Jochem, Wauwatosa, Wis. Assigned to Cutler-Hammer, Inc., Milwaukee, Wis. Application Oct. 18, 1951. 32 Claims.

2,672,093. INK DISTRIBUTION FOR HIGH-SPEED ROTARY PRINTING PRESSES includes a fountail roll, two groups of high speed rolls, a group of intermediate speed rolls, and an independently timed ductor roll for supplying a quantity-controlled supply of ink from the fountain roll to the group of intermediate speed rolls. A second independently timed ductor roll supplies most of the ink from the group of intermediate speed rolls to one of the groups of high speed rolls to be transferred to the plate cylinder. A third independently timed ductor roll transfers surplus ink removed from the plate cylinder through the second group of high speed rolls to the group of intermediate speed rolls. Invented by Joseph E. Meyer and Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Application Oct. 19, 1950. 9 Claims.

2,672,812. INK PUMPING MECHANISM FOR ROTARY PRINTING PRESSES uses an ink rail extending along the bottom of the cylinder, an ink supply tank extending along the side of the cylinder and a plurality of ink pumping units located beneath the tank. Each pumping unit includes a horizontal valve disposed at right angles to the cylinder and has a vertical cross-port and a plunger. An ink supply passage leads downwards through the bottom of the tank to the upper side of the valve and an ink discharge passage leads from the upper side of the valve through the tank and ink rail to the bottom of the cylinder. The valve and plunger are reciprocated to draw the ink from the tank and to force the ink upwards to the bottom of the cylinder. The reciprocating mechanism includes a rotary shaft and an eccentric connected to the valve and a lever connected to the plunger and positioned to be rocked by the eccentric. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Application Nov. 24, 1951. 16 Claims.

2,672,844. APPARATUS FOR TREATING FLEXIBLE WEBS being fed to a printing press can be dampened to the right degree to prevent breaks by this apparatus which includes an air pipe, a liquid pipe and a return pipe. Atomizing nozzles are supported in spaced relation on the air and liquid pipes, each nozzle having a pair of valves. The pipes are supported near the web travel and a mechanism for regulating air and moisture pressure is connected to the pipe supports. Invented by James B. Kirby, Richfield, O. Assigned to The Apex Electrical Manufacturing Co., Cleveland, O. Application June 28, 1947. 4 Claims.

2,673,735. DUAL DELIVERY FOR PRINTING PRESSES, particularly high speed printing presses, includes two pile supports, winding drums, and cables attached to each of the supports. The cables run over sheaves to the drums. A pawl and a ratchet arrangement turns each of the drums a small increment at a time to lower the supports. The two pawl and ratchet arrangements are disposed side by side, and a common masking bar pivoted intermediate its ends is adapted to be swung into position to disable the pawl of either one of the pawl and ratchet arrangements selectively; thus only one of the pawl and ratchet arrangements may be actuated at a given time. Invented by Irving F. Niles, Shaker Heights, O., and Robert K. Norton, Twinsburg, O. Assigned to Harris-Seybold Co., Cleveland, O. Application Nov. 29, 1949. 17 Claims.

2,673,766. LOCKING MECHANISM FOR LOCKING LATERALLY ADJUSTABLE CYLINDER BEARINGS by which the impression cylinders of printing presses may be adjusted and then locked in adjusted position comprises, in combination, a diaphragm carried by each bearing for the cylinder and a locking element carried by the diaphragm and positioned between the diaphragm and an adjustable mount for the bearings. Fluid pressure is supplied to one side of the diaphragm to deflect the same to force the locking element into locking contact with the mount. Invented by Rudolph P. Bechle, Yonkers, N. Y. Assigned to Potdevin Machine Co., Brooklyn, N. Y. Application May 16, 1951. 3 Claims.

Many of our production executive readers will respond to your Position Wanted Ad in the Classified Section of *Printing Equipment Engineer*. Rates on p. 135.

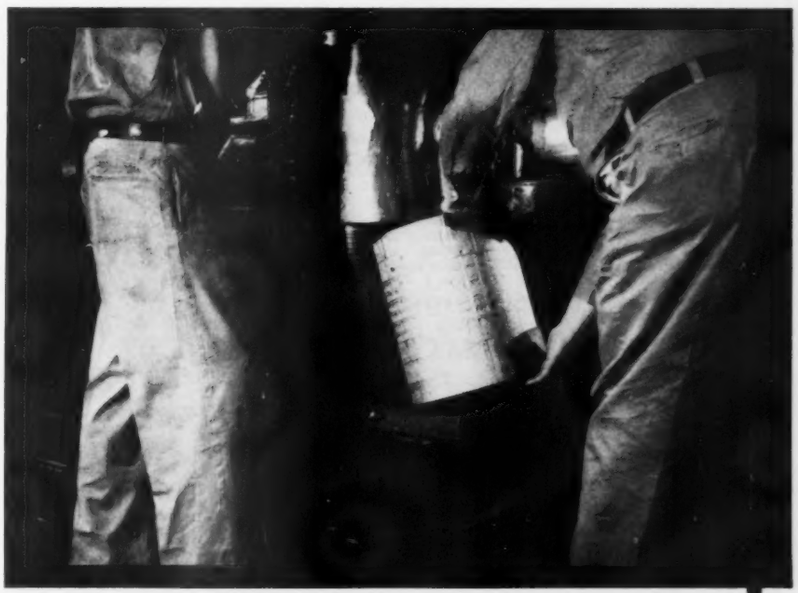
Trains Japanese Engravers

A report of conditions and customs in Japan's photoengraving was given recently by Gene Waterloo, Technical and Sales Consultant for General Plate Makers Supply Co., upon returning from a four week stay in Tokyo. Waterloo was sent to the Far East to supervise the installation of recently purchased American photoengraving equipment and train workmen in the engraving department of Gakko Tosho Co., Tokyo text book printers.

Waterloo described Tosho's new letterpress plant now under construction as a steel-framed, brick building with such modern features as air conditioning, glass walls and quarters for employees. Equipment installed included a camera, General All-Electric etching machine, Vandercook four-color proof press and other new machinery.

According to Waterloo, the department heads in the Japanese firm were intelligent and willing to learn. He added that they also had to unlearn outmoded methods which they had been using.

Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.



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PUMP TYPE CYLINDER SPOT PLATER
(Patent Pending)
SAVE COPPER • SAVE TIME

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COMPLETELY FILLS TYPE SECTION 1" long x ¼" wide on a rotogravure cylinder with electrolytically plated copper in 7 to 9 minutes! Base copper or Ballard shell imperfections repaired rapidly by single or successive platings! After handfinishing repaired section, there is no structural variation of copper in or around fill.

MACHINE IS A SELF-CONTAINED, PORTABLE UNIT; housed in a compact reinforced plywood carrying case. Machine consists of plater with motor driven centrifugal pump which has stainless steel impeller and lucite housing; also 6 volt rectifier; fuse protected ammeter; variable resistor amperage control; and reversing switch. Includes roll of pressure sensitive plastic tape and rubber mask for centering and taping over area to be plated.

Machine designed to use standard plating solution of copper sulphate, sulphuric acid and operates on 110 volt, AC current.

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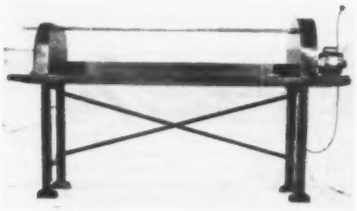

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Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Assoc. — 1954 Conf., Hotel Jefferson, St. Louis, Mo., Oct. 11, 12, 13. Pres., D. H. Murnik, Oakland National Engraving & Gravure Co., 307 Tenth St., Oakland 7, Calif.; Exec. Secy., Frank J. Schreiber, 166 W. Van Buren St., Rm. 430-A, Chicago 4, Ill.

ANPA Mechanical Conf. — 1954 Conf., Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., June 7, 8, 9. Chairman of the Committee, Joseph E. McMullen, Prod. Mgr., Milwaukee (Wis.) *Journal;* Mgr., ANPA Mechanical Dept., Richard E. Lewis, 370 Lexington Ave., New York 17, N. Y.

Book Manufacturers' Institute — 1954 Conv., Hotel Hershey, Hershey, Pa., Oct. 18, 19, 20. Pres. Sidney Satenstein, American Book-Stratford Press, Inc., 75 Varick St., New York 13, N. Y.; Secy., Miss A. G. Watson, 25 W. 43rd St., New York 36, N. Y.

Fifth District Craftsmen's Conf. — 1954 Conf., William Penn Hotel, Pittsburgh, Pa., June 11, 12. Pres., Robert Edgar, Pres., Neyhart Printing Co., 244 Blvd. of the Allies, Pittsburgh, Pa.; Secy-Treas., Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, Ohio.

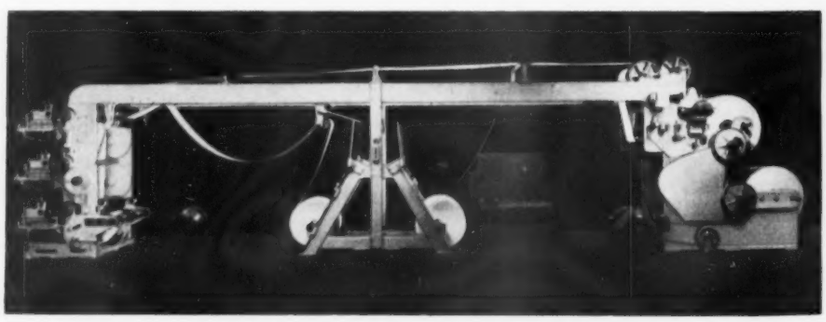
Graphic Arts Trade Assoc. Executives — Secy., Arthur L. Johnson, Graphic Arts Assoc. of Milwaukee, 704 W. Wisconsin Ave., Milwaukee 3, Wis.

Gravure Technical Assoc.—1955 Annual Meeting, Drake Hotel, Chicago, Ill., Feb. 2, 3, 4. Pres. John E. Hazel, New York *Daily News,* 700 Pacific St., Brooklyn 17; Secy.-Treas., Frank Sportelli, International Color Gravure, Inc., 39 W. 60th St., New York 23, N. Y.; Secy., Edward S. St. John, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conf. — 1955 Conf., Sheraton-Cadillac Hotel, Detroit, Mich., Jan. 16, 17, 18. Pres., Frank Dassori, Pressroom Supt., Detroit *Times;* Secy.-Treas., Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

Illinois Newspaper Mechanical Conf. — 1954 meeting, Hotel Custer, Sept. 25-26, Galesburg, Ill. Pres. Eldon L. Martin, Galesburg (Ill.) *Register-Mail;* Secy.-Treas., Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.; Chairman Supplymen's Committee, Joseph D. Goggin, Newspaper Publishers Supply Co., 1639 N. Lorel Ave., Chicago 39.

Intl. Assoc. Electrotypers & Stereotypers — 1954 Conf., Greenbrier Hotel, White



Sealright Installs Manhasset Press—The Sealright Co., Inc., has installed its fourth Manhasset flexographic press, according to Manhasset Machine Co. It is a color press designed to handle 36 in. wide rolls of 48 in. diam. The press is in operation in Sealright's Kansas City, Mo., plant for printing paper cups, containers and similar products. Maximum rated speed of the press is 600 ft. per min. It is equipped with interchangeble non-splash fountains and special cylinder bearings that permit quick color and plate changes. Other features of the Manhasset press include automatic edge control and constant surface tension control at both unwind and rewind.

Sulphur Springs, W. Va., Oct. 28-Nov. 1. Pres., Carl N. Becker, Becker Electrotype Co., 144 N. Water St., Milwaukee 2, Wis.; Exec. Secy., A. P. Schloegel, 701 Leader Bldg., Cleveland 14.

Intl. Assoc. of Printing House Craftsmen — 1954 Conv., Bellevue-Stratford Hotel, Philadelphia, Aug. 8-11. Pres., Howard N. King, The Maple Press, York, Pa.; Exec. Secy., Pearl E. Oldt., Rm. 806, Transportation Bldg., 307 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Ray Miller, 300 Valley View Rd., Media, Pa.

Intl. Graphic Arts Education Assoc.—1954 Conf., University of Colorado Campus, Boulder, Colo., July 4-8. Pres., Patrick F. Boughal, New York School of Printing, 461 Eighth Ave., New York 1, N. Y.; Exec. Secy., Samuel M. Burt, 719 Fifteenth St. N. W., Washington 5, D. C.

Intl. Typographic Composition Assoc. — 1954 Conv., Hotel LaSalle, Chicago, Sept. 23, 24, 25. Pres., Harold L. McGirr, Morris & Walsh Typesetting Co., Inc., 129 Lafayette St., New York, N. Y.; Frank M. Sherman, Exec. Dir., 1015 Chestnut St., Philadelphia 7.

Iowa Daily Newspaper Mechanical Conf. —Secy.-Treas., Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald*.

Kansas-Missouri Newspaper Mechanical Conf.—1954 Meeting, Town House Hotel, Kansas City, Kan. Sept. 11-12. Kansas Pres., Howard Wilson, Jetmore (Kan.) *Republican;* Missouri Pres., Louis N. Bowman, *Tri-County News*, King City, Mo.; Secy-Treas., William A. Bray, Missouri Press Association, 220 Walter Williams Hall, Columbia, Mo.; Supplymen's Committee Chairman, Clark O. Murray, Inland Newspaper Supply Co., 422 W. 8th St., Kansas City 5, Mo.

Lithographers National Assoc. — 1954 Conv., The Greenbrier, White Sulphur Springs, W. Va., June 8, 9, 10. Pres., William H. Walters, President, United States Printing and Lithograph Co., Old Country & Glen Cove Rds., Mineola, L. I., N. Y.; Exec. Dir., W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conf. — 1955 Conf., Atlantic City, N. J., March (hotel and dates to be announced.) Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conf. Dir., Theodore A. Serrill, PNPA General Mgr., 304 Telegraph Bldg., Harrisburg, Pa.

National Assoc. of Litho Clubs — 1955 Conv. Milwaukee, Wis., May 5-7 (hotel to be announced later). Pres., Jack Blades, Washington, D. C.; Exec. Secy., Frank Mortimer, U. S. Government, Printing Office, Washington, D. C.

National Assoc. of Photo Lithographers— 1954 Conv., Hotel Statler, New York, N. Y., Sept. 22-25. Pres., A. J. Fay, 75 Varick St., New York 13, N. Y.; Exec. Vice Pres., Walter E. Soderstrom, 317 W. 45th St., New York 36, N. Y.

National Printing Equipment Assoc., Inc. Pres., Richard B. Tullis, Pres. Miller Printing Machinery Co., 1117 Reedsdale St., Pittsburgh 33, Pa.; Secy., James E. Bennet, 140 Nassau St., New York 38, N. Y.

National Safety Council Printing and Publishing Div. — 1954 meeting, Conrad Hilton Hotel, Chicago, Oct. 18-20. Gen. Chairman, Peter J. Bernard, Director of Personnel and Safety, H. Wolff Book Mfg. Co., 508 W. 26th St., New York 1, N. Y.; Staff Rep., Fred Lubet, National Safety Council, 425 N. Michigan Ave., Chicago 11.

New England Mechanical Conf. — 1954 Conf., Hotel Statler, Boston, Mass., Oct. 16-17. Pres., J. William Powers, Mech. Supt., Burlington (Vt.) *Free Press;* Secy.-Treas., Walter C. Crighton, Comp Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conf.—Pres., William Benson, Pressroom Foreman, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* Secy.-Treas., Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conf. — 1954 meeting, Multnomah Hotel, Portland, Ore., Sept. 17-19. Pres., Wm. E. Gibbons, Prod. Mgr., Portland (Ore.) *Journal;* Secy., Don Newhouse, Prod. Mgr., Portland (Ore.) *Oregonian;* Chairman Supplymen's Committee, Intertype Corp., Portland, Ore.

Printing Industry of America—1954 Conf., Hotel Statler, Detroit, Mich., Nov. 15-19. Pres., James J. Rudisill, Rudisill & Co., Lancaster, Pa.; Gen. Mgr., James R. Brackett, 719 Fifteenth St., N.W., Washington 5, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1955 Meeting, Boston, Mass., May 11, 12, 13 (hotel to be announced later). Pres., John Davis, jr., Exec. Vice Pres., Judd & Detweiler, Inc., Florida Ave. and Eckington Pl., N.E., Washington 2, D. C.; Exec. Secy., John Reed, 719 Fifteenth St., N.W., Washington 5, D. C.

Screen Process Printing Assoc. — 1954 Conv., Jefferson Hotel, St. Louis, Mo., Oct. 30-31, Nov. 1-2. Pres. Stanley R. Snider,

with
TINGUE
PRINTING PRESS
BLANKETS

TIME is of the essence—in publishing — and trouble-free blankets are essential! That's why Tingue, Brown blankets are "hot news" in pressrooms throughout the land. The greatest group of press packing offered today — TINGUE — will "stand the gaff". Gauges range from .012" to .120", to meet every press condition. Be sure of sharp, clean impressions, — use TINGUE blankets.

*Reg. U. S. Pat. Off.

COMBINO—An extremely durable clean printing laminated blanket. Gauges .062", .083", .093".

TOP-DRAWSHEET—is firm, durable, economical and of long life. Gauges .016", .025", .030".

CUSHION CORK*—A highly resilient underpacking. Gauges .055" to .085".

TINGUCORK*—Much finer than "CUSHION CORK" and preferred where precision plates are available. Gauges .032", .055" to .086".

FOUNDATION—A firm, durable, oilproof under packing laminated by du Pont with "Neoprene." Gauges .032", .040", .053" to .085", .120".

Tingue Coated Felt • Uncoated Wool Felt • Gold Tympan Drawsheet • Improved Satisfaction • Sterling • Korker Under Blanket.

COATED TYMPAN PAPER—The coating by The Carborundum Co. gives better register and measurable savings in down time on runs over 50,000.

TINGULOK—This great new "clipper lacing" method is the simplest system for blanketing rotary newspaper presses

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Are you constantly struggling for quality printing?

Install Ideal rollers and relax!
ROCKETS for your job presses
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AUTOMATIC MARGIN CONTROL
AUTOMATIC WEB TENSION

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37 Wall St. New York 5

Sniders' Poster Process Co., 2638 St. Louis St., New Orleans, La.; Exec. Secy., Robert H. Blundred, 549 W. Randolph St., Chicago 6. Conv. Committee Chairman, William Fraser, 1627 Locust St., St. Louis, Mo.

SNPA (Eastern Div.) Mechanical Conf.—1954 Conf. Whitley Hotel, Montgomery, Ala., Aug. 23, 24. Conf. Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.) *Journal* and *Sentinel;* Secy., Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Supplymen's Committee, James R. Geer, Coosa River Newsprint Co., Coosa Pines, Ala.

SNPA (Western Div.) Mechanical Conf.—1955 Conf., Dallas, Tex., March 6, 8, hotel to be announced later. Conf. Chairman, Carl P. Lawrence, Tulsa (Okla.) *World & Tribune;* Secy., Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman, Supplymen's Committee, Eddie P. Gaughan, New England Fibre Blanket Co., 1225 S. Trenton Ave., Tulsa 10, Okla.

Technical Assoc. of the Graphic Arts—1955 Conv., Somerset Hotel, Boston, Mass., May 9, 10, 11. Pres., G. L. Erikson, Braden-Sutphin Ink Co., 3800 Chester Ave., Cleveland 14; Secy.-Treas., George S. Hammer, 8 Cherry St., Marblehead, Mass.; Convention Chairman, Merrill Friend, Technical Director, Spaulding Moss Co., 113 Franklin St., Boston 10, Mass.

Northwest Conference Officers—In this group are shown the newly elected officers of the Northwest Newspaper Mechanical Conference. Identified from left to right are: President, William Benson, Pressroom Foreman, St. Paul (Minn.) *Pioneer Press* and *Dispatch;* Secretary-Treasurer, Ralph Carson, Linecasting Instructor, Dunwoody Institute, Minneapolis, Minn.; Second Vice Pres., Charles West, St. Paul *Pioneer Press* and *Dispatch;* and First Vice Pres., Edward O'Neil, Pressroom Supt., Minneapolis *Star* and *Tribune.*

News Items

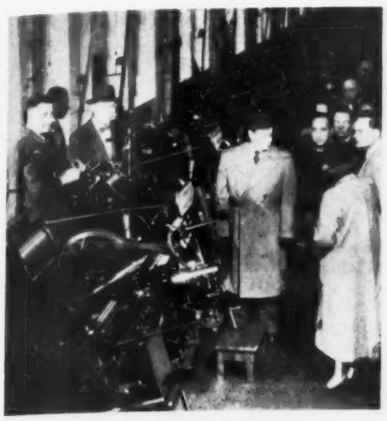
(Continued from Page 52)

academic sessions. All courses are equal to full college credit, and students may take a single subject or several courses. Payment is on an individual subject basis, ranging from $38 to $58 per course. Detailed information may be obtained from the Director of Summer Sessions, Carnegie Institute of Technology, Pittsburgh 13, Pa.

Management Conference Report—A 52 page report on the 1951 and 1952 Graphic Arts Management Conferences held at Carnegie Institute of Technology is being distributed to members of the National Printing Equipment Assoc. The booklet contains edited transcriptions of group discussions and papers presented at the 1952 Conference, and summaries of the

proceedings of the 1951 Conference. The report includes information on production control methods, production organization, and design and copy control.

Students Visit Heidelberg — Twenty American students of an American occupa-



tional authority branch of the University of Maryland in Heidelberg, Germany, recently toured the Original Heidelberg factory there. They learned the present social insurance scheme of the company, in addition to other modern facilities available to plant workmen. The visit was made under the direction of their professor, Frau Dr. Totten.

DAVIS

Davis Elevated — John H. Davis, jr., of Judd & Detweiler, Inc., Washington, D. C., has been named Vice Pres. and Secy. of the organization and a member of its Board of Directors. His father, John H. Davis, sr., has retired as General Mgr. and is Chairman of the Board of Directors, which has authorized a Management Council. Members of the Council include James W. Shields, Executive Vice Pres. and Treas.; the younger Davis; Willard E. Brown and Henry J. Laupp, Asst. Vice Pres., and Elmer M. Pusey, Business Mgr. William A. Edelblut is Asst. General Mgr. of the organization.

DEENEY

Deeney Attends European Meets — James J. Deeney, board chairman of Bensing Bros. & Deeney, attended the Graphic Arts Fair in Paris and the Drupa Exhibition in Dusseldorf, Germany, during May. He also visited flexographic printers and educational institutions in Europe to survey the current status of flexography abroad. Accompanying him were A. van Hove, director of the Trenal Company, Brussels, Belgium, and Waldemar von Siebenthal, owner of Colora, Ltd., Berne, Switzerland, both of whom represent Bensing Bros. & Deeney in Europe.

Victor Strauss, well known Graphic Arts authority on the silk screen printing process, recently disposed of his interests in the Pied Piper Press, New York, N. Y. Currently, he is devoting his energies toward publication of a volume to be entitled *Point of Purchase Cardboard Displays.* This will be a manual for the planning, construction and production of cardboard displays. Strauss can be communicated with at Presentation Press, 225 Lafayette St., New York 12, N. Y., with which firm he is associated.

Schaefer Elected President — George C. Schaefer jr., of George C. Schaefer Engraving Co., Glendale, Calif., has been elected President of the Photoengravers Assoc. of Southern California. Elected Vice President was Ralph Shepherd, of Bryan-Brandenburg Co., Inc., William Rose of Rose Engraving Co., was elected Treasurer. Dave Starr continues as Executive Secretary of the association, which is an affiliate of Printing Industries Assoc.

R. Hoe & Co., Inc., announced its sales for the six months ending March 31, 1954, were $8,014,497 compared with $9,192,660 in the same period of the preceding year. Profits for the half year, before taxes, amounted to $719,834 and after taxes were $325,834, compared with $1,032,506 and $525,506, respectively, in the corresponding six months a year ago. The company suffered a six-weeks' strike at its principal plants during the early part of 1954. Hoe's unfilled orders as of April 9, 1954, amounted to $18,187,000, of

NOW!
TWO ROUSE TIME-SAVING
PLATE SAWS
With Exclusive Automatic Feed
For Photoengravers,
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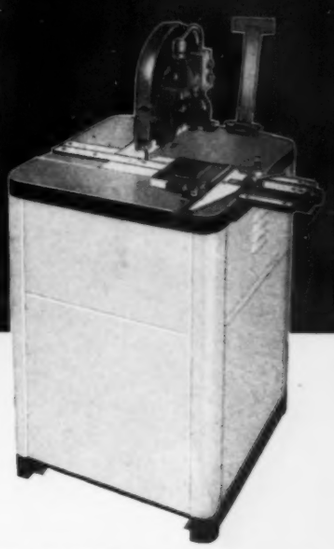


No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (on Both Models)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.
2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.
3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.
4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

Write for complete details TODAY!

H. B. ROUSE & COMPANY
2214 North Wayne Avenue, Chicago 14, Illinois

ROUSE PRODUCTS...The Standard of the World Since 1899

which defense orders represented $7,943,000, compared with total unfilled orders of $29,370,000 a year ago, including $15,829 defense work, and $27,794,000 including $14,748,000 defense work, as of June 26, 1953.

Kantor Dies — Joseph Kantor, Pres., Linotype Supply Co., Inc., died April 22. Kantor, who began his career with the old New York (N. Y.) *Evening Mail*, was a member of Typographical Union No. 6, and was former president of the Machinists' Branch of the Union. He started his own business in 1914. Kantor will be succeeded by his son, Henry Kantor.

E. G. Ryan & Co. Moves—E. G. Ryan & Co., formerly located at 727 S. Dearborn St., Chicago, recently moved to 153 W. Huron St. in that city. According to G. Q. Snyder, company vice president, the move was made for expansion of equipment display space, parts department and shop facilities.

FRIESE

Friese Named Vice President — E. R. Friese, Director of Manufacturing for Sun Chemical Corp., was named vice president of the Corporation at a recent board of directors meeting. His appointment has been announced by Pres. Ralph C. Persons. Friese joined the Corporation in 1936.

BELDOTTI

James F. Beldotti has joined the sales staff of General Printing Ink Co., New England Div. of Sun Chemical Corp. Formerly offset superintendent of Winthrop Printing & Offset Co., Beldotti is a charter member and past president of the Boston Litho Club, a member of the Boston Craftmen's Club, and assistant secretary of the Natl. Assoc. of Litho Clubs.

Typocraft, Inc., 607 Fifth Ave., So., Minneapolis, Minn., has installed a four-magazine Linotype machine in the latest of a series of expansion moves, according to Felton Colwell, Pres. The machine is equipped with four magazines which enable the operator to set and mix type from several separate faces at one time.

BRINSDEN

Brinsden Appointed — C. S. Brinsden has been appointed Plant Supt. of the Printing Div., Montreal Standard Publishing Co., according to a recent announcement by Mark Farrell, Vice Pres. and General Mgr. of the company.

handling
positioning
no spacing problems!
work-up
storage

PMC Sterling Toggle Base is easier to handle when it's made of magnesium, the sturdy, *lightweight* metal. Plates are easier to position on Sterling Toggle Base since it's precision manufactured to provide perfect rigidity, accuracy and dependability. With measured movement built into each Sterling Toggle Hook, there is no difficulty in obtaining hair-line register at the first tightening of hook against plate. A quarter turn of the key advances the hook 1 point—printers measure.

With forms on Sterling Toggle Base, there is no need to compensate or adjust for rocking cuts, type off its feet, sinking spots, etc. Time required for lock-up, make-ready and register is materially reduced resulting in less down time, more speedy, steady production. When the run is off, forms are easy to store. Unmounted electros take up only 1/5th of the space usually required for storage of type, cuts and furniture.

Write today for complete information on the Sterling Toggle Base System.

THE PRINTING MACHINERY COMPANY
436 Commercial Square, Cincinnati 2, Ohio

Overheated Press Bearings Detected by Electronics

An automatic electronic temperature-monitoring system designed to prevent major breakdowns of printing presses due to overheated bearing and gear housings has been developed by Popular Mechanics Magazine, Chicago.

The system permits constant monitoring of bearing temperatures in 48 critical locations on the publication's Goss two-color press and its Cottrell five-color press. A central control panel is equipped with three electronic strip chart recorders designed by Minneapolis - Honeywell Regulator Co. for measuring and charting temperature output of 16 thermocouples.

These thermocouples, or temperature-sensing elements, are imbedded on the bearing and gear housings, covering all moving parts of the presses. If either of the recorders' detects an unsafe temperature, a cam on its main drive gear trips a mercury switch that sets off a warning horn. At the same time, a red light is turned on. The horn can be shut off by pressing a Honeywell-designed alarm silencing relay but the light will stay on until the temperature returns to normal. The pressman, studying the instrument chart, sicchart, is able to spot the overheated area and make the necessary adjustments.

The system was conceived by H. H. Windsor, jr., Editor and Publisher of

Popular Mechanics, to cope with the tight printing schedules which prevented extensive maintenance during the monthly press runs. According to William H. Taylor, Plant Engineer, the system was needed only once in its first year of operation. In this instance, it provided notice of an overheated bearing in time to prevent a burnout.

The publication's engineers also believe the chart records will serve as a guide for preventive maintenance. Any change in a single temperature point that is not consistent with normal fluctuations of the other points in its group becomes a warning of unusual wear.

BOOKS

The Printing Industry Offers You A Career

ACCORDING to a report published recently in the *American Vocational Journal*, male students in an above average high school were given 55 vocational fields to select from for a career, but . . . "no one chose to be a printer." This may come as a startling revelation to many in the Graphic Arts industry, but to the men who have grappled with this manpower problem for a number of years it is just further evidence of the decline in appeal young people now hold toward printing and its related fields. It bears out the trend reported by city after city in many sections of the country.

Up until recently the tools for attracting young students to the Graphic Arts and for assuring a continuous supply of qualified manpower for this industry were meager, to say the least. Now, however, the Education Council of the Graphic Arts Industry in cooperation with Printing Industry of Cleveland, Inc., have published an attractive 22 page booklet to serve this purpose.

Under the appropriate heading *The Printing Industry Offers You A Career* is the story of printing written in language addressed specifically to junior and senior high school students. The text deals with operations involved in printing by the two major processes, letterpress and offset. Numerous illustrations are used throughout to dramatize job opportunities in the printing industry.

The booklet is to be distributed to vocational counselors, educators and others engaged in counseling young people regarding their life's work. It will no doubt fill a long felt need in this respect. In our mind, one of the most valuable sections of the booklet is the part which suggests how young persons with different capabilities and preferences might fit into the Graphic Arts picture.

The booklet was created under the supervision of William Fintze, Director, Creative Div., The Lezius-Hiles Co., Cleveland, and Lawrence G. Meyerson, Bond Printing and Engraving Co., Cleveland, who is also Chairman of the Education Council's Recruitment and Selection Committee. It is printed in green and black by both letterpress and offset. Space is provided on several pages for imprinting information concerning the local Graphic Arts industry or printing plant.

Further information on the booklet may be obtained by writing as follows: Education Council of the Graphic Arts Industry, Inc., 719 Fifteenth St., N. W., Washington 5, D. C.

No. 2 Makeready Conference Report

The proceedings of the Second Annual Conference on Makeready and Premakeready sponsored by the Research and Engineering Council of the Graphic Arts Industry, Inc., in October, 1953, have been published in a 220 page report. The report is comprised of the talks and discussions which took place during the meeting, edited and assembled in an orderly fashion.

The technical conference was an attempt by the R&E Council to provide standards in methods, materials and procedures for the industry to follow. Separate discussions were held on letterpress, offset and rotary press makeready.

Among the subject matter included in the proceedings are the following topics: Makeready for the small and medium-sized letterpress plant; Bierbauer press makeready method; Offset platemaking and makeready on the press; Ink in relation to makeready; Variables in paper; How suppliers can help printers reduce makeready, and Ultraviolet inspection. A wealth of additional information pertaining to makeready for both letterpress and offset printers was taken up in the discussion periods and is recorded in the proceedings.

Of special interest is a report by Dr. Marvin C. Rogers, Research Director, R.

Charles Shoemaker, Mechanical Supt., Bergen (N.J.) Evening Record says:

"G-E Calrod* heaters cut our costs, give us trouble-free stereomelting"

"More than two years ago we installed 18 General Electric Calrod heaters in two of our melting pots," Mr. Shoemaker continues, "and not one of them has given us any trouble. We work them hard, too, melting as many as 120 plates a day."

Economy-minded newspapers everywhere are finding that G-E Calrod heaters give dependable, fast, ***and therefore economical*** stereomelting. Act now to get the same benefits by switching to electric heat with General Electric Calrod heaters.

For help in selecting new stereomelting equipment or planning conversion of present equipment, contact your G-E Apparatus Sales Office. And send for Bulletin GEA-5453, "Melting Stereotype Metals with Electric Heaters." Section 720-125, General Electric Co., Schenectady 5, N. Y.

*Reg. Trademark of General Electric Company.

You can put your confidence in—

GENERAL ELECTRIC

1954 SHATTERING ALL WORLD RECORDS

Roger Bannister did the impossible . . . *the 4-minute Mile*
Parry O'Brien did the impossible . . . *the 60-foot Shot-put*
Stan (The Man) Musial . . . *hit 5 Home-runs in one day*

1954 "Gold-Mine" BAUMFOLDERS . . . *everywhere daily breaking production (profit) records*

TO YOU . . . MY FRIEND:

We never "knew it all"—we never felt *this* or *that* improvement, in itself, was of world importance. We figured that always . . . somewhere . . . somebody might have *additional new* ideas that improved performance, ease-of-operation, quicker setting . . . and we have—for 36 years—constantly looked for, found and adapted everything helpful . . . especially everything that *increased production*, therefore *your net profit*.

Today . . . the 1954 BAUMFOLDER "Gold-Mines" challenge the world for production (therefore profit to you) . . .

Today . . . the BAUMFOLDER leads the world by a mile in LOWEST PRICES for fastest, finest Folders ever designed.

Won't you ALLOW US TO exchange your pre-war Model for a '54 "Gold-Mine"? 25,000 BAUMFOLDER USERS (many times the Folder volume the world ever knew) always enabled us to price them so low . . . they are so value-packed per dollar investment and the small yearly depreciation is so slight . . . that your old Model traded in now will stand out on your books as the most "economic" investment you ever made . . . as will your '54 "Gold-Mine" in 1974.

We urge the pay-for-itself plan (bank interest rate) because we want to feel that we never take any capital out of your business, but, on the contrary, put capital into your business EVERY month with its INCREASED VELVET MONTHLY PROFITS which will greatly exceed the small share that pays for your "Gold-Mine".

We are "dedicated" to increasing your folding profit . . . won't you do me the favor to spare me a few minutes to talk it over? Call (collect, of course) . . . Lombard 38164/5/6. If I am presumptuous, do forgive me for feeling YOUR maximum folding profit is MY business.

Gratefully, "RUSS" BAUM

Russell Ernest Baum, Inc., 615 CHESTNUT STREET, PHILA. 6, PA.

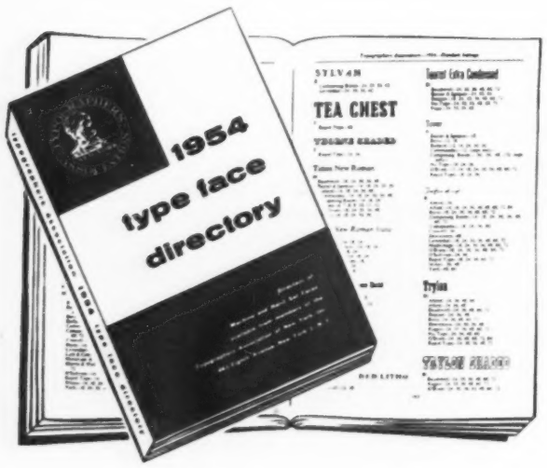
R. Donnelley & Sons Co., Chicago, on the Second Intl. Conference of Printing Institutes. The report may be ordered direct from the Research and Engineering Council, 719 Fifteenth St., N.W., Washington 5, D. C. Price is $6 per copy.

Type Face Directory

The sixth annual edition of the *Type Face Directory*, issued by the Typographers Assoc. of New York, Inc., has been distributed to nearly 7000 printing and typographic plants, and advertising agencies in the New York (N. Y.) area and surrounding states. Included in the 176 pages of the *Directory* are 1184 type faces, both machine and hand set, in a full range of sizes.

All type faces listed are displayed in one-line specimens. The machine set classifications include Intertype, Linotype, Ludlow and Monotype faces. Parts of the book deal with preparation of copy, economies in composition, proofreading, copyfitting and trade customs.

The Typographers Association states that facilities of its member firms represent an investment of over $8½ million in matrices, magazines and foundry type; over $4 million in machines; and over $1 million in type metal. Also listed are the foreign typesetters with equipment for setting type in languages ranging from Africander to Ukrainian.



The sixth edition of the type face specimen book published by the Typographers Assoc. of New York shows one-line samplings of 1184 machine and hand set types.

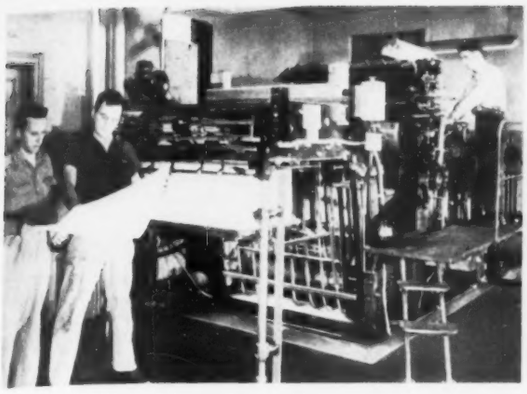
Inquiries on the *Directory* should be made on company letterheads and sent direct to Typographers Assoc. of New York, Inc., 461 Eighth Ave., New York 1, N. Y.

Annual Reports Well Designed

Many of the annual reports issued by companies in the United States for 1953 have been sent to stockholders. From the Graphic Arts standpoint, these are marked by well executed typographic design, clearly defined graphs and tables, liberal use of color and excellent cover stocks. Included in the expertly planned reports are presentations of the firm's financial standing as well as reviews of the past year's operations for the benefit of the stockholder.

Some of the reports we have seen which fall into the above described class were those produced by Time Incorporated, Intertype Corporation, National Container Corp., Interchemical Corporation, Seiberling Rubber Co., Metropolitan Life Insurance Co. and Merritt-Chapman & Scott Corp. The American printing plants responsible for the printing of these pieces are to be commended for the high quality of work which went into their production.

The companies issuing reports which fall in the Graphic Arts category all show increases in sales and earnings. Harry G.



Two ATF-Mann single color offset presses are now in operation at Terminal Lithographing Co., Hoboken, N. J. Pictured with the L136 press are (left to right) Thomas Garibaldi, supervisor, Victor Lurski, foreman, and Donald Bodtmann, pressman. The other press is an L135.

Willnus, President of Intertype, reported that despite increased sales, profit margins were not as satisfactory as in recent years. He attributed this to higher wages and manufacturing costs, higher income taxes and higher depreciation charges. Total Intertype sales for 1953 amounted to approx. $12¼ million.

Interchemical Corporation, which embraces other fields besides printing inks, noted that its sales were at a high level during 1953 but were at a somewhat reduced rate toward the end of the year. It reports that in the past six years the Printing Ink Div. has provided new facilities for its branches in ten locations and has opened six new branches. President Herbert B. Woodman stated that 2 per cent of the sales are given over to product research and development.

Highest revenues in the company's 31 year history were reported by Time Incorporated. Net revenues for the year totalled approx. $170 million. It also reported the installation of a press at R. R. Donnelley & Sons Co., Chicago, for the production of multicolor pages for *Time* magazine.

National Container Corp. summed up 1953 as the greatest year of expansion and production in that company's history. Completed was construction in Georgia on its Valdosta mill where a 240 in. Fourdrinier paperboard machine is in operation, running at speeds of 2000 f.p.m. It is claimed the machine can produce a minimum of 500 T. of 42 lb. Kraft linerboard per day.

To Find the Right Man

The 10,000 mechanical and production executive readers of *Printing Equipment Engineer* are vitally interested in improving production methods. They prove that by reading *Printing Equipment Engineer*. Your Help Wanted Ad in the *Printing Equipment Engineer* Classified Section will bring response from high qualified men. Rates on page 135.

Recent Equipment Report

Rosback Installations

Recent installations of Rosback bindery equipment announced by F. P. Rosback Co. are as follows: *Auto-Stitchers* — Ace Printing Co., Hartford, Conn. (installed by Merit Printers Supply Co.); Speed Photo-Offset, Waterbury, Conn. (installed by Merit Printers Supply Co.); T. O'Toole & Sons Co., Hartford, Conn. (installed by American Type Founders); New Era Press, Inc., Deep River, Conn. (installed by American Type Founders); Modern Printing & Litho Co., Norwalk, Conn. (installed by American Type Founders); The Free Methodist Publishing House, Winoma Lake, Ind. (installed by E. P. Lawson Co., Inc.); Dexter Press, Chicago (installed by Type & Press of Illinois, Inc.); Reese Press, Baltimore, Md. (installed by John H. Burke Co.); Hagers

Tie Newspapers . . . Magazines

The SAXMAYER Way!

All SR Models with or without packer use jute, sisal or cotton twine . . . makes tight secure tie with one wrap and non-slip bow knot . . . ties various size stacked or rolled bundles without adjustment . . . Model SR1C illustrated especially adapted to conveyor systems for full AUTOMATIC operation . . . Small motor and hand operated models for tying single papers for home delivery available . . . Machines fully guaranteed . . . over 30 models to choose from.

LITERATURE ON REQUEST

NATIONAL BUNDLE TYER CO.

BLISSFIELD, MICHIGAN

Now . . . Graphic Arts Saws

That Stand the Gaff

We Are Proud to Offer the Most Modern Development in the Graphic Arts Industry in 15 Years!

Trims linotype slugs, zinc cuts and electrotypes without burrs.

Carbide-Tipped GRAPHIC ARTS SAWS

WOODSMAN blades are stocked to fit all standard machines. Special saws also available.

A Precision Tool for an Industry Built on Precision

Slices through mounting nails without damage to the blade.

WOODSMAN SPECIAL MAGNI-SHARP CARBIDE TIPS eliminate the need of frequent saw changing, guaranteeing increased production. They stay sharp 10 to 20 times longer than present outmoded blades.

WOODSMAN

NORTH AMERICAN PRODUCTS CORP.
Box 210, Center Grove Rd.
Edwardsville, Illinois

Please send me complete information on your *Carbide-Tipped Graphic Arts Saws*.

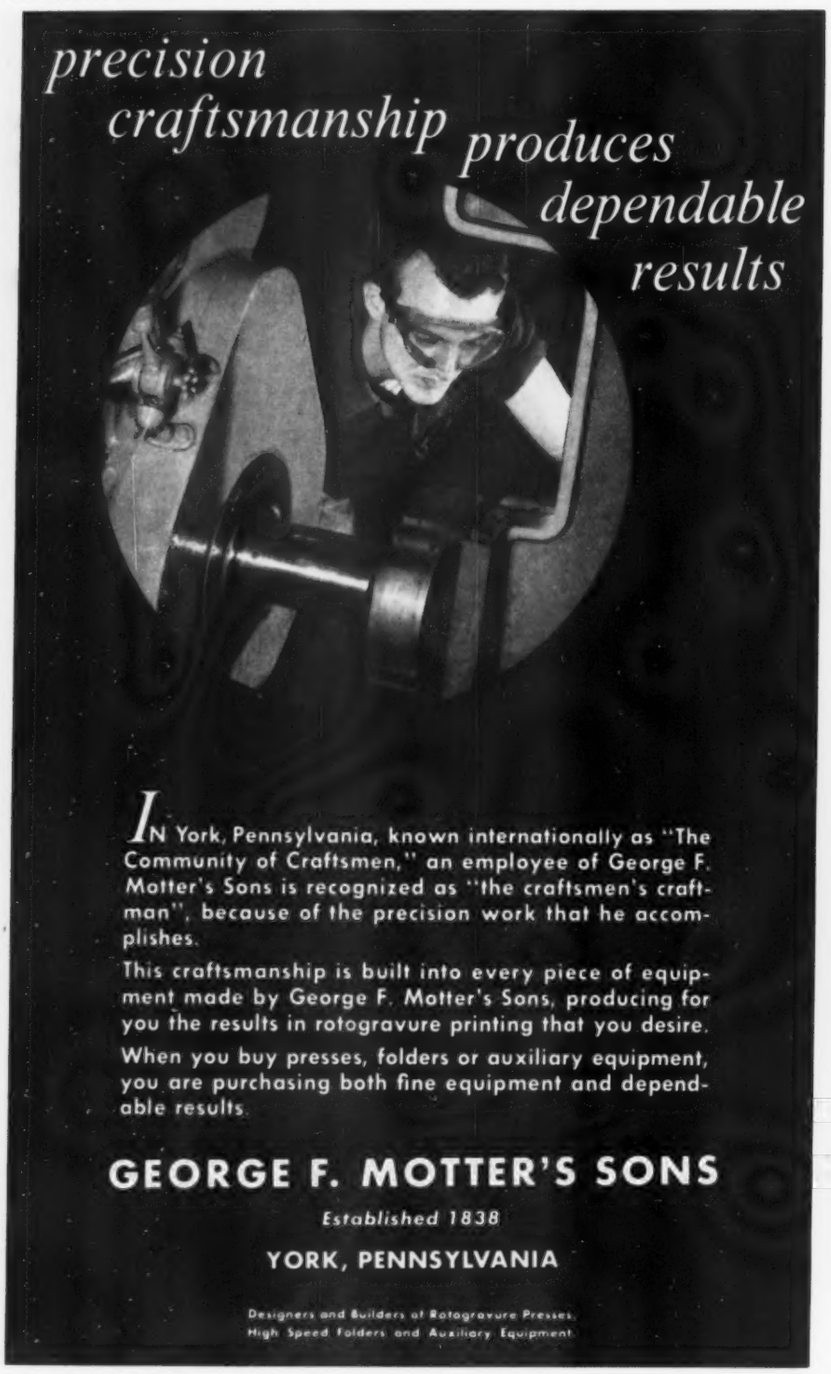
Name ..... Title .....

Company .....

Address .....

City ..... State .....

town Bookbinding & Printing Co., Hagerstown, Md. (installed by American Type Founders); Hare Printing Co., St. Charles, Mich. (installed by Kalamazoo Printing Machinery Co.); University of Michigan, Ann Arbor, Mich. (installed by Kalamazoo Printing Machinery Co.); Binders, Inc., Detroit, Mich. (installed by Tompkins Printing Equipment Co.); Jos. A. Rakel Book Bindery, St. Louis, Mo. (installed by Gane Brothers & Lane, Inc.); Rural New Yorker, New York, N. Y. (installed by E. P. Lawson Co., Inc.); Canfield & Tack, Inc., Rochester, N. Y. (installed by E. P. Lawson Co., Inc.); The Colorcraft Corp., Solon, O. (installed by Caxton Printers Supply Co.); Austin Print Work Co., Akron, O. (installed by M. L. Abrams Co.); Messanger Press, Carthagena, O. (installed by Western Newspaper Union); West Publishing Co., Apollo, Pa. (installed by Earnest Payne Corp.); Holcomb-Blanton Printery, San Angelo, Tex. (installed by Texas Type Foundry, Inc.); D. H. White, Houston, Tex. (installed by E. C. Palmer & Co., Ltd.). *"Twenty-two Special" Perforators*—Hull Printing Co., Meriden, Conn. (installed by Western Newspaper Union); Adcraft Printers, Gary, Ind. (installed by Kalamazoo Printing Machinery Co.); U. S. Government, Federal Security Agency, Lexington, Ky. (installed by Addressograph-Multigraph Corp.); Saya Studios, New York, N. Y. (installed by E. P. Lawson Co., Inc.); Klopman Mills, Inc., Asheboro, N. C. (installed by Addressograph-Multigraph Corp.); Bill Evans Co., Laurinburg, N. C. (installed by Geo. R. Keller, Inc.); The Sand Springs (Okla.) *Leader* (installed by American Type Founders); Boyer Printing & Binding Co., Lebanon, Pa. (installed by R. W. Hartnett Co.), I. State University, Nashville, Tenn. (installed by Western Newspaper Union); Southern Statistical Co., Memphis, Tenn. (installed by Western Newspaper Union); Tennessee Valley Authority, Knoxville, Tenn. (installed by American Type Founders). *Gang Stitchers*—Wagner Printing Co., Freeport, Ill. (installed by Thompkins Printing Equipment Co.); and The Miller Printing Co., Asheville, N. C. (installed by Southeastern Printers Supply Co.). *Slot Rotary Perforators* — Fisher-Harrison Printing Co., Inc. (installed by George R. Keller, Inc.); and Printing Service Co., Dayton, O. (installed by Western Newspaper Union). *Super XX Perforator*—J. C. Hall Co., Pawtucket, R. I. (installed by E. C. Fuller Co.).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Dust Control

(Continued from Page 94)

in the present system than was formerly collected. The air exhausted from the collector is recirculated back into the plant.

Dust Survey

Ventilation of all six stations of the two binding lines requires 1080 cu. ft. of air

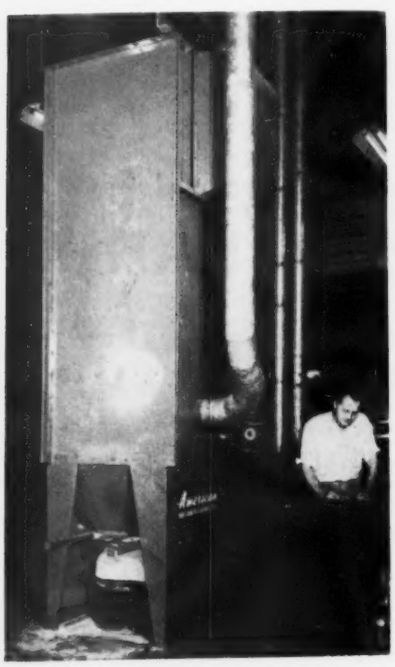


Fig. 3.—The dustube cloth-tube-type dust collector designed by American Wheelabrator & Equipment Corp. for a bookbinding plant. The large duct at the right of it carries the dust-laden air into the collector. Part of one of the bookbinding conveyor lines may be seen in the background.

per min. The cloth used is made in the form of cotton sateen tubes which are 5 in. in diameter and 70 in. long. Cotton cloth was specified as the filtering medium by dust control engineers of American

Wheelabrator & Equipment Corp., who designed the collector. This was decided after a survey of the abrasive properties, chemical characteristics, and normal particle shapes of the dust.

The dust trapped in the tubes is periodically shaken down mechanically. It falls into the collector's hopper, from where it is removed for disposal.

Paper Properties

(Continued from Page 92)

drying are more frequent in the humid weather of summer months.

Just as low pH can retard drying of offset inks, so also does higher pH accelerate the drying rate. This has been established by some very interesting research.

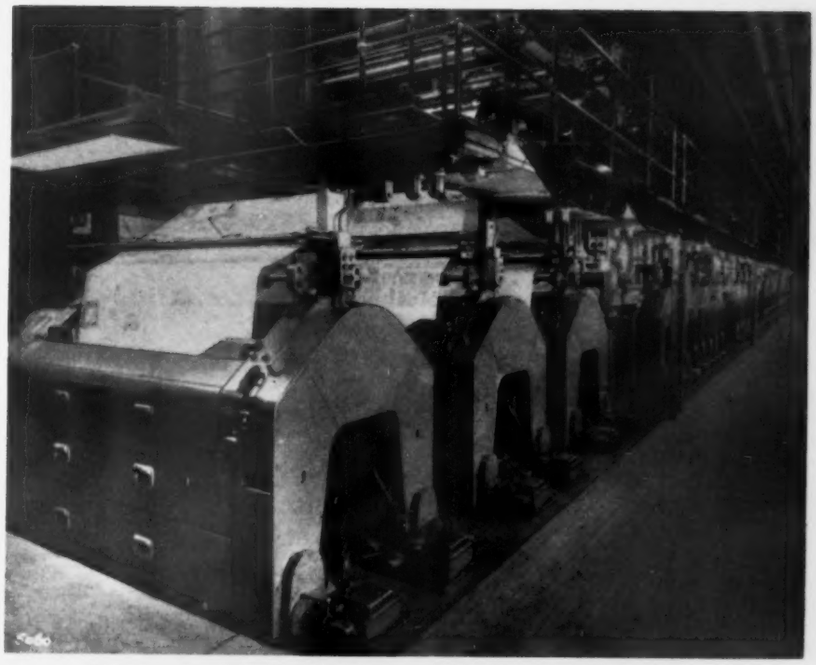
Consider the lithographic process which requires moisture and ink as well as acid fountain solution to prevent emulsification of ink and water and to maintain sharpness of image and preservation of the plate. The presence of acidified moisture in the ink retards the rate of ink drying. This leads us to the reason that acidic conditions are necessary in the ink film until it has been transferred to paper, but once it is on a paper surface, an alkaline coating is highly desirable so as to facilitate drying. The other related advantage is that the use of certain alkaline pigments in the coating contributes greater brightness, increased ink receptivity and generally, a better printing surface. Many of the coated papers used today in offset printing have a pH from 7 to 8.5.

Water Resistance of Coating

The common use of alkaline coatings in the offset process might seem a surprise to some who have always believed that an offset coated paper had to be neutral and never alkaline. The earlier coated papers having an alkaline coating were troublesome because the alkaline components were leached from the coating by press moisture, transferred from blanket to plate cylinder and unbalanced conditions on the press. The result was scumming and deterioration of the plate. Present day offset coated papers have water resistant coatings that prevent both piling and transfer of alkalinity and active surface components from paper to plate via press moisture.

Water resistance of coating with respect to offset printing is not always easily evaluated and can be misinterpreted by inexperienced persons. A high wax or pick test does not always indicate that a coating is water resistant and, therefore, suitable for offset printing.

A coated paper used to print by letterpress or rotogravure does not need to have a water resistant type coating. Therefore, regular starch coated papers are satisfactory. However, the use of the paper after printing, such as beer labels or catalog covers exposed to the weather, will require a water resistant coating. Consequently, it is important that the



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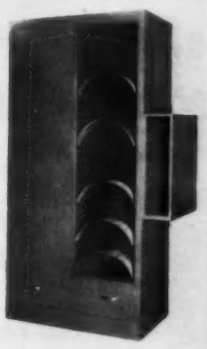

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A safety code on controls and signalling devices for printing presses is being sponsored jointly by the Research and Engineering Council of the Graphic Arts Industry and the Natl. Safety Council. Members of the American Standards Assoc. subcommittee are shown reviewing the code at Natl. Safety Council headquarters, Chicago. They are (left to right) Gordon Maltby, Intl. Assoc. of Electrical Inspectors; W. H. Rouse and G. W. Heumann, Natl. Electrical Manufacturers Assoc.; Lillian Stemp, Research and Engineering Council, Graphic Arts Industry; Ray Ketchmark, Folding Paper Box Assoc.; Peter Bernard, Natl. Safety Council (chairman); John Reed, Research and Engineering Council, Graphic Arts Industry; J. J. Cochran, Natl. Printing Equipment Assoc.; J. McGowan, American Newspaper Assoc., and M. L. Priban, Cline Electric Co.

paper supplier be informed of both printing and after printing requirements.

The subject of pH has been treated as simply as possible. Several books are available for those who want to delve into the theoretical chemistry of pH. It should not be interpreted that pH is always responsible for ink failing to dry on a paper, plates going blind or scumming and other press problems. Many other factors must often be considered in addition to pH.

(To Be Continued)

ABC of Offset

(Continued from Page 90)

60% of halftone tint in Col. 5 is 20/100. of base color.

70% of halftone tint in Col. 7 is 10/100 of base color.

Problem—What percentage tint value of base color in Col. 7 must be added to 60% tint value of base color in Col. 3 to match a color indicated as .50 in Col. 6?

Solution—60% of Col. 3 equals .40%.
70% of Col. 7 equals .10%.
The color desired totals .50 in col. 6.

Problem—Using base color, Col. 1 and tint base in Col. 8, what percentage of Col. 1 is added to the solid base of Col. 8 to match the solid base tint in Col. 4?

Solution—Solid tint base color of Col. 8 equals 30%. Thus 40% of halftone tint in Col. 1 equals 40% of base.

Now 40% of Col. 1 added to the 30% solid tint of Col. 8 equals .70 or the 70% solid color of Col. 4.

Words Have Meaning

Frequently a reproduction in two colors is requested. What is wanted is the big question. Does the customer want a duo-color or a duotone job? There is a difference.

There are seven words or terms descriptive and directly associated with the halftone reproduction processes. These can be listed as follows: (1) Monotone; (2) Duotone; (3) Duo-Color; (4) Tri-Color; (5) Full color; (6) Multi-color, and (7) Over or underprint.

Many buyers of printing would gladly use more color, but content themselves with black and white because of their inability to express their ideas or desires for color printing. Confusion often results by misinterpreting certain of the descriptive words, *i.e.*, (2); (3) and (7)

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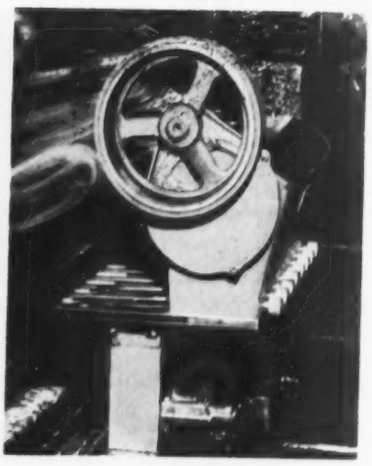

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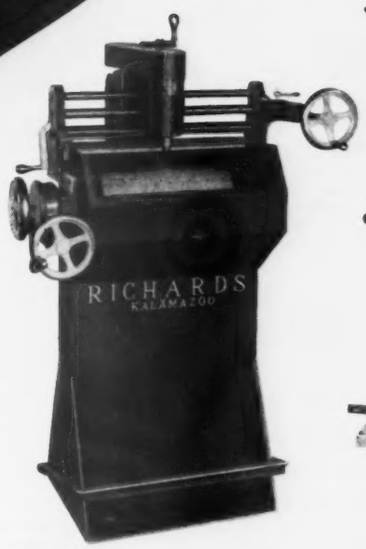

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or between (4), (5) and (6). Let's see what the words mean.

(1) Monotone is descriptive of a halftone reproduction printed in one color only, with overall distribution of graduated tones, detail and contrasts to simulate the continuous tone original.

(2) Duotone is used to describe a two color effect obtained by overprinting a light colored image with a dark colored image of the same subject. This is frequently accomplished by use of the same printing plate, merely by changing the color of the ink, and by manipulating pressures and ink flow. The effect obtained by this method is not always pleasing and most frequently associates itself with false economy.

A more pleasing duotone is obtained by using two negatives, one for each color at its own respective color screen angle. By this method, possibilities of moiré patterning is eliminated. This also means that two printing plates will be required, one for each color printed.

It is also possible to use colors of any strength so that richer and more effective reproductions will result, from simulated aquatones to elaborate illustrations.

(3) Duo-color refers to the printing of two harmonizing colors of equal weight or density. The difference between duotone and duo-color printing is that in the first instance no color correction or separation is required, but with duo-color many different color effects are possible by reason of the color correction and separation. Instead of an overall repetition of color as in the monotone and duotone processed, Duo-color permits the elimination of color in certain areas, permitting one color to be printed alone or predominant to the other color.

With the duo-color process, effects of three or more colors can be obtained when properly selected colors are used. It is extremely important that proper screen angles be employed when printing duo-color reproductions.

(4) Tri-color is that process employing three colors, preferably standard process yellow, red and blue inks. Here, properly separated and corrected negatives can be made to produce reproductions in almost a complete range of spectral color sensations, primary, secondary and tertiary.

(Note—the resulting color effects obtained by either duo-color or tri-color printing is surprising to the observer. The proper inks coupled with correct lighting, imagination and mental trickery, combine to make up the optical illusion of color by which all halftone reproductions are viewed.)

(5) Full Color—This means the printing of black in addition to the standard process colors of yellow, red and blue. The question is frequently asked: "If, yellow, red and blue will make any color, why is black necessary?" It will be re-

Printing Industry of America's Rotary Business Forms Conference was held April 29 in the Dayton-Biltmore Hotel, Dayton, O. Conference officers who attended the conclave are (left to right): John M. Baird of Baird, Inc., Tarentum, Pa., Secy.; Frank F. Pfeiffer of Reynolds & Reynolds Co., Dayton, Special Groups Committee Chairman; Joseph Steir of Alfred Allen Watts Co., Belleville, N. Y., Pres.; Max Clarkson of Clarkson Press, Inc., Buffalo, N. Y., Treas., and James R. Brackett, General Mgr., PIA, Washington, D. C. Not pictured is Otto Bull of Workman Mfg. Co., Chicago, Vice Pres.

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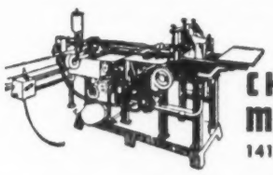

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called that in our description of the tri-color process we said "Almost a complete range of spectral color sensation".

We must remember that color is a sensation produced by reflected light, and black is darkness or absence of light; in other words an absence of color, which is also perceived by the human eye. Both, the presence and absence of light and color gives us the visual impression of shape and contour by reason of the degrees of light and shadow comprising an object.

Consequently, black as a color is used to accentuate shadows, detail and to add contrast. It also serves to darken certain colors if they were erroneously selected for the job.

(6) Multi-color infers the printing of four or more colors of different classes, shades, tints and hues with or without benefit of a black.

Too many people connected or associated with the preparation or development of created art work for reproduction, lack the true knowledge of color. They use color indiscriminately and so far out of line and balance as to make the reproduction of their work a project rather than a pleasure in production.

Hence the reason for multi-color printing, to be able, between extremes of range from light to dark, to more accurately reproduce the majority of different colors used in original created art work.

(7) Over or underprinting generally refers to the printing of one solid color over another solid color. This process opens the door to many strange and unusual effects and uses.

With transparent colors, a solid Green overprinting a solid red will produce a bluish brown. By reversing the order a reddish brown will result.

Planned overprinting or underprinting two colors *i.e.*, black and red on white paper can provide clean and sharp red and white lettering on a black background in addition to a well defined glossy black design or ornamentation on a matte black background. Surely this is worth knowing, and another reason why a color correctionist or dot etcher must think. *(To Be Continued)*

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Fire Prevention

(Continued from Page 70)

gives off ignitable vapors readily. Lubricating oils, vegetable and fish oils, and glycerin, however, are generally in the combustible liquid category—they will burn, but at ordinary temperatures do not give off flammable vapors. Heating a combustible liquid will make it flammable as will dispersing it as a fine spray.

Flash Point

The temperature at which a liquid gives off vapors which can be ignited by a flame or a spark is called its flash point. The temperature of a spark or flame necessary to ignite these vapors is known as the ignition temperature and is generally much higher than the flash point. For this reason, a flammable liquid can be above its flash point yet not ignite unless there is a flame or spark. Such is the case of gasoline in an open pan.

The lower the flash point of a liquid, the more hazardous it is. Liquids which have a flash point below the temperatures at which they are utilized are particularly dangerous because they give off flammable vapors wherever they are exposed to the air.

Protecting Ventilating Systems

Ventilating systems used for removal of flammable vapors can be protected from fire by the installation of a fixed pipe system for the application of water spray, dry chemical extinguishing agent, or an inert gas such as carbon dioxide. As conditions warrant, such systems may be actuated manually or automatically, or both. Such controls may also be used to stop exhaust fans and other equipment.

The importance of keeping such built-in extinguishing systems in operating condition at all times was recently demonstrated when a serious fire swept through the pressroom ventilating ducts of a large newspaper plant on the day when the automatic fire protection system was disconnected for a semi-annual inspection. Such maintenance of an automatic system is, of course, essential, but suitable extra precautions must be taken to prevent and control fires during any impairment of the system.

In this case the ventilating ducts passed through a number of stories of the building; the fire was so intense that, although the ducts were enclosed in noncombustible material, damage was done by the heat on various floors.

Good Housekeeping

Good housekeeping is one of the best means of fire prevention. By its very nature, the printing industry produces quantities of waste paper which, when loose and finely divided, is readily ignitable. Unless controlled by proper housekeeping, waste paper can provide the fuel to spread fire rapidly throughout a plant.

Trimmings, if not conveyed through ducts or chutes, should be confined at their source in waste containers, preferably noncombustible ones. Likewise at presses and other points where waste is generated, adequate collection means should be provided.

Waste paper should be collected periodically and removed to the baling room. This should be of fire resistive construction and separated from the rest of the building by an automatic fire door. Baled paper is also highly combustible and should be kept in segregated storage or removed from the plant as promptly as possible.

Oily Waste and Rag Disposal

Covered metal receptacles should be provided for all oily waste and rags. Some printing inks contain drying oils which are particularly susceptible to spontaneous heating and it is important that wiping rags saturated with such materials be discarded only in safe containers. These should be emptied daily. Supply lockers should also be of metal construction, well ventilated, and inspected regularly for accumulation of oil-soaked cloth or waste.

The Dust Hazard

Good housekeeping is also important for the control of dust. Hazardous

Gutenberg's partner, Fust, was tried as a sorcerer because of the unbelievable uniformity of the firm's printed Bibles. In the dawn of printing history, makeready was still done by guesswork. Often it took over a day to stretch the parchment "tympans" on the press.

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amounts are particularly likely to build up in baling rooms. Not only will combustible dust on beams and ledges spread fire rapidly, but if disturbed and suspended in air, may form dust clouds that can be ignited and which will burn with explosive force. Installation of dust collecting systems or periodic vacuum cleaning is desirable in areas where paper dust is produced in quantity.

Newsprint Burns Intensely

Not only does waste paper burn vigorously, but so too does paper stock, even in hard packed rolls. Newsprint in rolls, for example, is difficult to ignite but, as a number of recent fires show, will burn intensely once fire has gotten underway. In this respect rolled paper is similar to ordinary wooden logs. Singly, a log resists ignition; several stacked up with kindling will burn fiercely.

On two occasions in recent years fire has started in rolled paper stored in fire resistive buildings and has spread quickly through the stock. Intense heat and smoke made it impossible for firemen to approach the fires which burrowed through the rolls. Finally, in both cases, walls of the buildings had to be smashed down in order to facilitate fire fighting. The paper storage was completely ruined.

Neither of these buildings had the benefit of automatic sprinkler protection. Experience has shown that once a fire has gained headway in such rolled paper great effort is necessary to extinguish it completely. The most effective method of keeping such fires from getting out of control is the use of automatic sprinklers.

For the Ladies

Sightseeing trips, fashion shows, luncheons, theatre visits and a trip to famous Atlantic City will be on tap for women visitors at this year's Craftsmen's Convention. The 35th annual meeting is to be held in Philadelphia at the Bellevue-Stratford Hotel, August 8-11. Mrs. Gene Davis is in charge of the ladies' activities. It is planned to mail complete details on this part of the convention program to every member's lady in the International.

Storing Paper On Skids

To minimize possible damage to paper from the operation of automatic sprinklers or of hose streams, the stock should be stored on skids which will raise it six inches or more from the floor. Storage in basements should preferably be on 12 in.

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high skids because of the increased possibility of flooding such locations.

Automatic Sprinkler System

An automatic sprinkler system is one of the most effective methods known for controlling practically all types of fires since it both detects a fire promptly and applies an extinguishing agent directly onto it. Use of automatic sprinklers in pressrooms has been looked on with disfavor by some persons because they have believed that water damage would be greater than any possible fire damage.

Large loss fires which have originated in pressrooms and destroyed the equipment have disproved this belief. Although the presses are noncombustible they contain combustible inks, paper, and rollers. Various compounds are used in press rollers and blankets, some of which are readily ignitable and which burn vigorously. Heat from such a fire can be sufficient to damage a press badly.

The possibility of a sprinkler operating as result of a defect in manufacture is negligible—only one chance in several million a year. Premature operation from other causes such as freezing, overheating, or mechanical damage can be guarded against readily.

In case of fire, a sprinkler will not operate instantly; the air surrounding it must be heated sufficiently to soften the fusible solder. This delay is sufficient to allow attacking and controlling the fire with first aid appliances if such will be possible at all. If control of the fire cannot be achieved in this manner, sprinklers provide a reliable second line of defense which should use less water and do less damage than the use of hose streams.

Minimizing Water Damage

To minimize water damage once a fire has been extinguished, sprinkler control valves should be accessible and plainly marked. Sectional control valves may be desirable on large systems or where the potential water damage may be high. Responsible persons should be instructed in the operation of the system and the dangers of premature shutting off of

Some Tips on Vacuum Frames

(Printed by courtesy of Lithographic Technical Foundation, Inc.)

In LTF's new bulletin, "How to Make and Run Better Zinc Surface Plates" (now on the press), there is a good deal of helpful information on the exposure of plates. The following is an excerpt on vacuum frames:

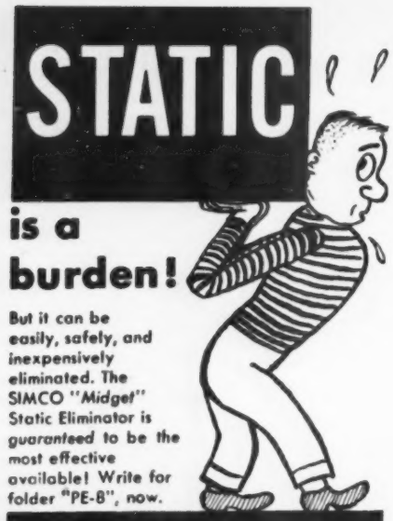
Use as high a vacuum as you can to get good contact between the plate and the negative. Keep the vacuum constant from plate to plate. A change in the vacuum may have the effect of changing the sensitivity of the plate coating somewhat. Since the vacuum gauge does not necessarily measure the actual vacuum between the plate and negative, check the printing frame or the photocomposing machine chase frequently for leaks.

Keep the gaskets smooth and clean. Replace them immediately if they crack or chip. Keep the vacuum frame or chase clean and free from dust. Keep vacuum frames closed when not in use.

Slight air leaks past the gasket on a photocomposing machine chase can cause trouble. When the relative humidity is high, these leaks can cause moisture to condense on the plate coating forming comet-like streaks. When the R H is low, the leaks can cause cracks in the coating.

Here is an easy way to test the contact between the plate and negative in a vacuum frame. When you have full vacuum in the frame, illuminate the area you want to check with a pen flashlight. Hold the light at a 45 degree angle to the cover and examine the area with a magnifying glass. If there is enough vacuum for good contact, you'll see only one image. If the contact between plate and negative is poor, you'll see a sharp shadow alongside each dot or line.

Be careful where you place masking paper and tape on the negative. Halftones should be frames or squared with thin opaque whenever possible. Opaque should always be used in preference to masking paper or tape. Tape or paper can prevent the negative from contacting the plate along the edges. This allows the light to undercut the negative along these edges which thickens the work and plugs the shadows. Also, avoid thick tape. Use the thinnest completely opaque tape that you can find.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water before a fire has been extinguished.

An alarm to indicate when a sprinkler system has operated is also important. Many fires in printing plants have broken out at night or other times when the plant has been vacant. Without such an alarm, water flow may occur for some time without discovery and resulting damage may be unnecessarily great.

Shielding Molten Metal Containers

If water is allowed to flow into molten metal, it will vaporize instantly into steam, expanding many times in volume with explosive force. To prevent steam explosions, melting pots in stereotype foundries, slug casting machines, and other equipment containing molten lead should be shielded from possible sprinkler discharges.

Types of Extinguishers

Fire extinguishers of several types are necessary in most Graphic Arts establishments for first aid fire fighting. For fires in ordinary combustibles such as wood and paper, water-containing extinguishers are most suitable. These include the soda-acid, pump tank, water-filled, cartridge operated, and foam types of extinguishers. Small hose streams are also suitable.

Flammable Liquid Fires

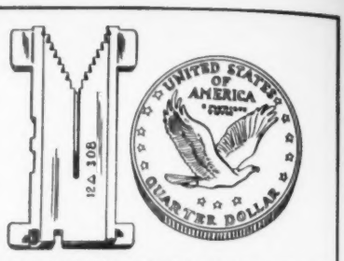
For flammable liquid fires, dry chemical, foam, and carbon dioxide extinguishers are satisfactory. These are available in small, readily portable units and as wheeled extinguishers for use on relatively large fires. Where wheeled extinguishers are provided, aisles must be of sufficient width and kept free of obstructions at all times to permit maneuvering of the equipment.

CALL FIRE DEPT.

As a final suggestion, call the fire department immediately upon discovery of a fire. You may be able to extinguish it before the department arrives, but don't take the chance of not having the fire department available to back you up if it is needed.

Carbon Dioxide Extinguishers

Carbon dioxide extinguishers are particularly useful for extinguishing flash fires in presses since they leave no residue to clean up once the fire is out. They are not designed for use on fires in ordinary combustibles, although they will generally extinguish small fires in single sheets of paper.



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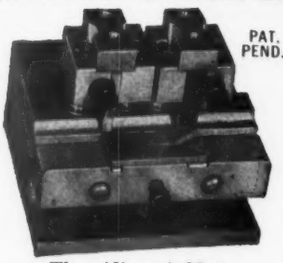

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Fixed carbon dioxide systems, either manually or automatically operated, are useful on large presses where fires may occur beyond the range of portable extinguishers.

Electrical Extinguishers

Electrical fires, for reasons of safety, should be fought with extinguishing agents that will not conduct current back to the fire fighter. Suitable extinguishers are those containing carbon dioxide, dry chemical, or a vaporizing liquid such as carbon tetrachloride.

Fire Protection in Graphic Arts

Fire protection, like work in the Graphic Arts industry, calls for skill and detailed knowledge of its problems. Methods of protection for glue pot heaters and for stereotype furnaces, for installation of gas lines to slug casting machines, for safe electrical installations,

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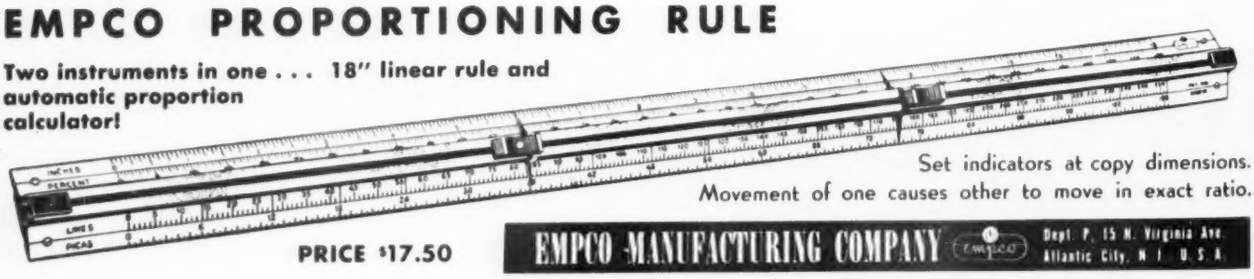

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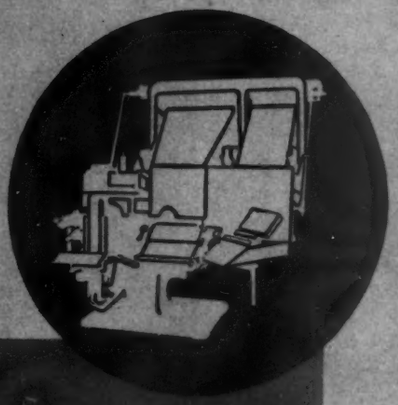

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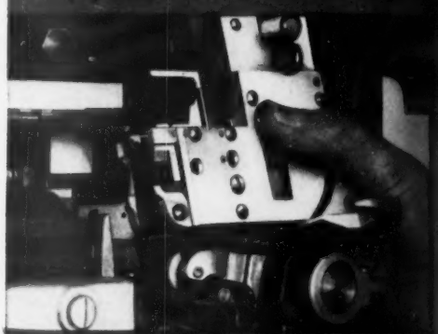

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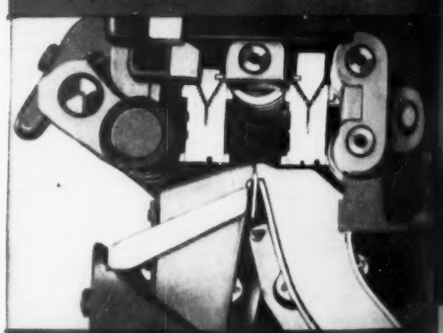

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